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September 20, 2005

Mr. Jackson Crutsinger
San Bernardino County Fire Department
Hazardous Materials Division
620 South E Street
San Bernardino, California 92415-0153

Sent via UPS

Subject: Summary of Soil Vapor Extraction Activities and Confirmation Soil Boring Proposal
ARCO Facility No. 3081
12201 Mountain Avenue
Chino, California

Dear Mr. Crutsinger:

On behalf of Atlantic Richfield Company, Delta Environmental Consultants, Inc. (Delta) has prepared this summary of soil vapor extraction (SVE) activities which were undertaken at the site from May 2005 through August 2005. This summary has been prepared in accordance with Delta's *Amendment to the Remedial Action Plan* (Amendment), dated July 29, 2002 (Delta, 2002) and with the conditions requested by the San Bernardino County Fire Department (SBCFD) in their letter to Atlantic Richfield Company, dated August 12, 2002 (SBCFD, 2002). According to the Amendment (Page 2):

- The SVE system will be operated for 30 days. At the end of 30 days of operation, individual wellhead samples will be collected from wells VEW-2, VEW-5, and BCI-D and the system will be turned off.
- If laboratory analyses of individual wellhead samples indicate MTBE [methyl tertiary butyl ether] concentrations of less than 10 ppmv, then the system will remain off. If laboratory analysis indicates greater than 10 ppmv MTBE in the sample from one or more wells, the SVE operations will be continued for additional 30-days on those wells exhibiting MTBE concentrations greater than 10 ppmv.
- The SVE system will be operated on consecutive 30-day operating periods until laboratory analysis confirms less than 10 ppmv of MTBE all three wells (VEW-2, VEW-5, and BCI-D).

In accordance with the Amendment, a confirmation soil boring is proposed at the site. Copies of the Amendment and the SBCFD letter are contained in Attachment A.

Site Setting

The site is currently a retail gasoline station with an AM/PM Mini-Mart and is located on the eastern side of Mountain Avenue in the city of Chino, California (Figure 2). Current activities at the site include retail sales and gasoline

A member of:



Summary of Soil Vapor Extraction Activities and Confirmation Soil Boring Proposal

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Chino, California

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dispensing. Improvements at the site include four 10,000-gallon underground storage tanks (USTs), four gasoline fuel dispensers, and the station/retail store building.

Hydrogeology

Regional groundwater flow is toward the south-southwest (Pinnacle, 1999).

The site is located in the central part of the San Gabriel Valley approximately three miles northeast of the Puente Hills at an elevation of approximately 835 feet above mean sea level. The area of the site is underlain by sand, silt, and gravel of Holocene age. Subsurface investigations at the site indicate that the sedimentary section consists of silty sand and sand to a depth of 90 feet below ground surface (bgs), which is the maximum depth drilled (Pinnacle, 1999).

Groundwater was not encountered at the site within 90 feet of the ground surface. City of Chino Well No. 11, which is located approximately ¼ mile southeast of the station, is the nearest public water supply well to the site. In June 1998, depth to groundwater at the well was 247 feet bgs.

Remediation History

The remediation history of the site is contained in the Amendment and is summarized as follows:

- In April 1996, Brown and Caldwell (B&C) performed an SVE test at the site. The results of the test indicated a radius of influence of 25 to 30 feet for the site.
- In June 1999, an eight-day SVE test was conducted by Pinnacle. Pinnacle estimated that 156 pounds of hydrocarbons were removed during the B&C conducted test, and 16.24 pounds of hydrocarbons were removed during the June 1999 test.
- Following approval of their Remedial Action Plan (RAP), the Shaw Group Inc. performed SVE activities from May 5, 2001 to April 18, 2002 using an internal combustion engine and SVE wells VEW-1, VEW-2, VEW-3, VEW-5, BCI-D, and BCI-M. Due to difficulties with the SVE equipment, the actual operating time was equivalent to approximately 80 days. Laboratory analysis of vapor samples collected on April 18, 2002 indicated no detectable concentrations of benzene, toluene, ethylbenzene, xylenes (BTEX), or methyl tertiary butyl ether (MTBE) in any of the well head samples collected except for 51, 4.7, and 14 parts per million by volume (ppmv) of MTBE in wells VEW-2, VEW-5, and BCI-D, respectively.

Following receipt of all required permits and performance of all required inspections, the Airex Katox 100 C55 catalytic oxidizer SVE system was started on May 25, 2005. Delta prepared a *System Startup Report*, dated July 5, 2005 and submitted it to the South Coast Air Quality Management District (Delta, 2005).

Results of SVE Activities

The SVE system at the site was started on May 25, 2005, and influent and effluent samples were collected. In addition, individual wellhead samples were collected from VEW-1, VEW-2, VEW-3, VEW-5, BC1-M, and BC1-D following startup. The SVE system shut down automatically after operating for approximately six hours due to software issues of the programmable logic controller (PLC). The SVE system was restarted on July 14, 2005, but automatically shut down on July 21, 2005 due to high temperature conditions. The system was restarted on July 25, 2005, and influent and effluent samples were collected on July 28, 2005. The SVE system ran continuously during the period from July 25, 2005 through August 25, 2005. The SVE system performance data are shown in Table 1. Individual wellhead data, including photoionization detector (PID) measurements are contained in Table 2.

On August 25, 2005, in accordance with the Amendment, the SVE system was shut down, and soil-vapor samples were collected from wells VEW-2, VEW-5, and BC1-D, and the SVE system was shut down pending results of the analytical testing. The system is currently off.

Summary of Soil Vapor Extraction Activities and Confirmation Soil Boring Proposal

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Chino, California

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Results of Analytical Testing

Following startup of the SVE system on May 25, 2005, influent, effluent, and individual wellhead (VEW-1, VEW-2, VEW-3, VEW-5, BC1-M, and BC1-D) soil-vapor samples were collected and submitted for analysis for volatile fuel hydrocarbons (VFH) using Environmental Protection Agency (EPA) Method 8015 (Modified) and for BTEX and oxygenates using EPA Method 8260B. In addition, the effluent air sample was analyzed for benzene using EPA Method 410A (Modified). Analytical results for benzene (410A) are shown in Table 1, and analytical results for VFH, BTEX, and oxygenates are contained in Table 3. The influent and effluent samples contained 2.6 and 5.0 ppmv VFH, respectively. None of the wellhead samples contained detectable concentrations of VFH. None of the samples contained detectable concentrations of BTEX or oxygenates.

On July 28, 2005, influent and effluent samples were collected from the SVE system and analyzed for VFH using EPA Method 8015 (Modified) and for BTEX and MTBE using EPA method 8260B. The effluent sample was also analyzed for benzene using EPA Method 410A (Modified). VFH was detected in the influent and effluent samples at concentrations of 7.1 and 5.9 ppmv, respectively. No other analytes were detected in these samples (Tables 1 and 3).

On August 25, 2005, influent and effluent samples were collected from the SVE system and analyzed for VFH using EPA Method 8015 (Modified) and for BTEX and MTBE using EPA Method 8260B. The effluent air sample was analyzed for benzene using EPA Method 410A (Modified). VFH was detected in the influent and effluent samples at concentrations of 7.1 and 5.3 ppmv, respectively. Total xylenes were detected in the influent sample at a concentration of 1.2 ppmv (Tables 1 and 3).

On August 25, 2005, individual wellhead samples VEW-2, VEW-5, and BC1-D were collected from the SVE system and analyzed for VFH using EPA Method 8015 (Modified) and for BTEX and oxygenates using EPA Method 8260B. VFH was detected at concentrations of 3.7, 2.6, and 6.0 ppmv in wells VEW-2, VEW-5, and BC1-D, respectively. Total xylenes were detected in samples VEW-2 and VEW-5 at concentrations of 2.2 and 1.9 ppmv, respectively. Toluene was detected in sample VEW-2 at its detection limit concentration of 1.1 ppmv. None of the wellhead samples contained detectable concentrations of MTBE above its detection limit of 2.8 ppmv (Table 3).

Laboratory reports and chain-of-custody documentation for each of the sampling events are contained in Attachment B.

Based on the analytical results from the August 25, 2005 sampling, and in accordance with the Amendment and SBCFD letter (Attachment A), the SVE system will remain off, and a confirmation soil boring is proposed.

Proposed Confirmation Soil Boring

Delta will advance one confirmation soil boring (CB-1) in the area between VEW-3 and BC-1. The boring will be located at least 10 feet from the current underground storage tank (UST) cluster (Figure 2). The following scope of work is proposed:

- A site-specific Health and Safety Plan will be prepared, and a copy of the Health and Safety Plan will be on site during all Delta-monitored field events.
- The proposed boring location will be marked, and Underground Service Alert and Atlantic Richfield Company will be notified of the scheduled field activities.
- The confirmation soil boring will be advanced to a depth of 65 feet bgs. Soil samples will be collected at 5-foot intervals during the drilling of the soil boring, beginning at a depth of five feet bgs. The samples will be collected using three 2.5- by 6-inch precleaned brass sleeves contained within a modified California-type, split-spoon sampler. Prior to initiating the sampling, and between each sampling event, all sampling equipment will be washed with a phosphate-free detergent and water solution and double rinsed with deionized water. Of the three sample sleeves, the deepest, intact soil sample sleeve at each sample interval will have the sleeve ends lined with Teflon™ sheets, capped, and sealed. The sample will then be labeled,

Summary of Soil Vapor Extraction Activities and Confirmation Soil Boring Proposal

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placed in a resealable plastic bag, and stored in an ice-chilled container. Chain-of-custody procedures will be followed from the time the sample is collected until the time it is relinquished to the laboratory. Soil not retained for analysis will be field screened using a PID, used for soil classification, and the soil lithology will be noted on individual soil boring logs. Upon reaching terminal depth, the soil boring will be backfilled with bentonite chips, and the surface repaired to match the surrounding surface.

- All soil samples collected for analysis will be submitted to an Atlantic Richfield Company-contracted and California Department of Health Services-certified laboratory. All samples collected will be analyzed for total petroleum hydrocarbons as gasoline according to EPA Method 8015 (Modified) and for BTEX and fuel oxygenates using EPA Method 8260B.
- Soil and wastewater generated during the activities will be contained in Department of Transportation-approved, 55-gallon drums. The drums will be labeled and stored on site pending disposal.
- A summary report of all field activities and analytical results related to the advancement of the confirmation boring will be submitted to the SBCFD, and, if warranted, a request for site closure.

REMARKS AND SIGNATURES

With concurrence of the SBCFD, advancement of the confirmation soil boring will be initiated. All necessary permits will be obtained to meet the requirements of the appropriate agencies.

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are determined in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions regarding this correspondence, please contact Paul McCarter at (949) 860-0212.

Sincerely,

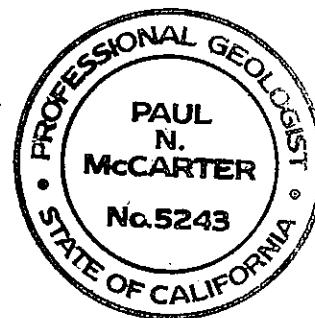
DELTA ENVIRONMENTAL CONSULTANTS, INC.


Paul N. McCarter, P.G.

Project Manager

California Professional Geologist No. 5243


Date



Attachments: References

Figure 1	Site Location Map
Figure 2	Site Map
Table 1	SVE System Performance Data
Table 2	Individual Wellhead Concentration Data
Table 3	Individual Well Vapor Analytical Data
Attachment A	Supporting Documents
Attachment B	Laboratory Reports and Chain-of-Custody Documentation

cc: Mr. Darrell Fah, Atlantic Richfield Company, La Palma, California

Summary of Soil Vapor Extraction Activities and Confirmation Soil Boring Proposal

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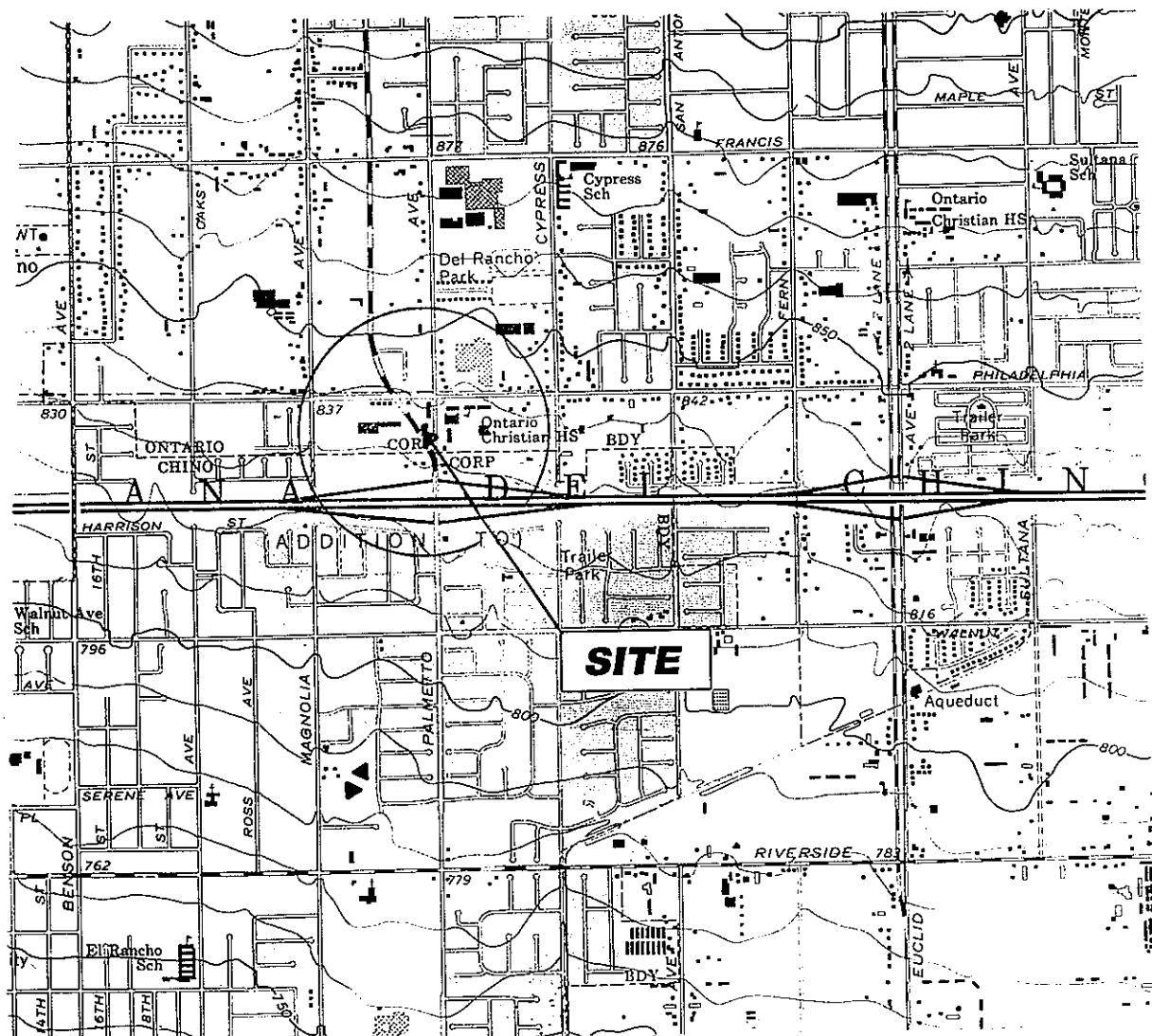
REFERENCES

Delta Environmental Consultants, Inc., 2002, Amendment to the Remedial Action Plan, ARCO Facility No. 3081, dated July 29, 2002.

Delta Environmental Consultants, Inc., 2005, System Startup Report, Permit No. F58869, Application No. 409484, ARCO Facility No. 3081, dated July 5, 2005.

Pinnacle Environmental Solutions, 1999, Vapor Extraction Test Report/Remedial Action Plan, ARCO Service Station 3081, dated July 15, 1999.

San Bernardino County Fire Department, 2002, Amendment to the Remedial Action Plan, ARCO Facility #3081, dated August 12, 2002.



GENERAL NOTES:

BASE MAP FROM U.S.G.S. 1967

ONTARIO QUADRANGLE

CHINO, CA

7.5 MINUTE TOPOGRAPHIC MAP

PHOTOREVISED 1981



QUADRANGLE LOCATION

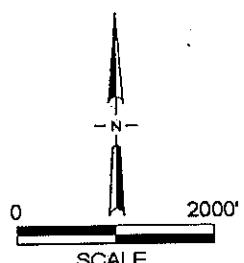


FIGURE 1

**SITE LOCATION MAP
ARCO FACILITY NO. 3081
12201 MOUNTAIN AVENUE
CHINO, CA**

PROJECT NO. AM00-807		DRAWN BY	
FILE NO. SLM 1		PREPARED BY C. OTA	
DATE 6/24/02	REV.	REVIEWED BY	

Delta
Environmental
Consultants, Inc.



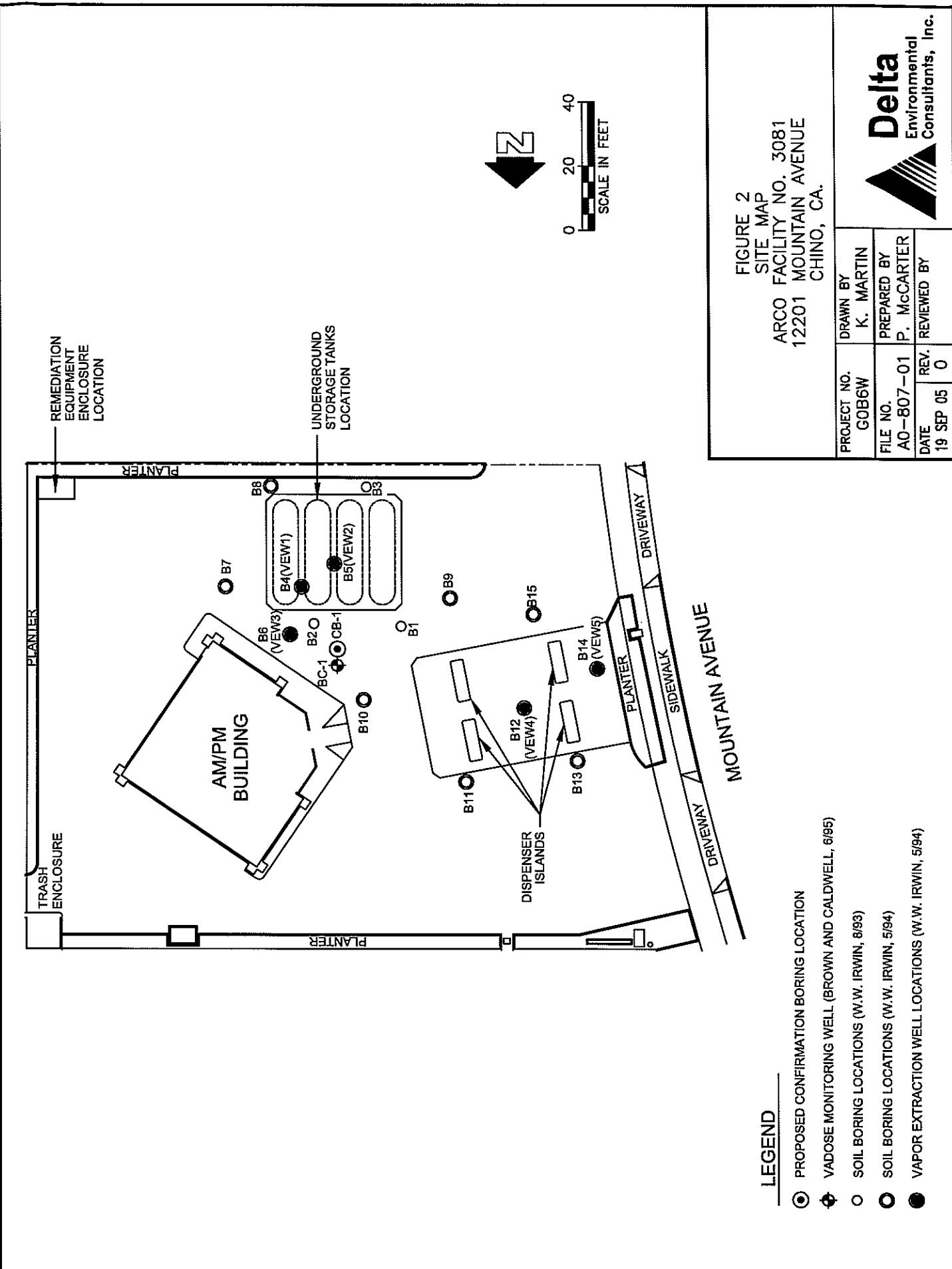


TABLE 1
SVE SYSTEM PERFORMANCE DATA
ARCO FACILITY NO. 3081
12201 MOUNTAIN AVENUE
CHINO, CALIFORNIA

Date Monitored	SVE System Status	Operating Time (hours)	Percent Operating Time (%)	Total System Flow Rate (cfm) 3"	Catalyst Temp (Deg F)	Influent VOC Conc. (PID-ppmv)	Effluent VOC Conc. (PID-ppmv)	Influent VFH Conc. (lab-ppmv)	Effluent VFH Conc. (lab-ppmv)	Influent Benzene Conc. (lab-ppmv)	Effluent Benzene Conc. (lab-ppmv)	Influent MTBE Conc. (lab-ppmv)	Effluent MTBE Conc. (lab-ppmv)	Comments
25-May-05	Start	0	0	65	676	23	47	2.6	ND<1.2	ND<2.8	5.0	ND<0.059	ND<2.8	System startup
01-Jun-05	Off	6	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	System off at departure
14-Jul-05	Restart	41	3	72	635	8.8	7.5	NA	NA	NA	NA	NA	NA	
18-Jul-05	On	133	96	41	635	10.1	7.8	NA	NA	NA	NA	NA	NA	
21-Jul-05	On	207	100	22.9	640	6.1	6.0	NA	NA	NA	NA	NA	NA	
25-Jul-05	Restart	223	17	50	762	2.7	2.8	7.1	ND<1.2	ND<2.8	5.9	ND<0.059	ND<2.8	
28-Jul-05	On	297	100	20.8	801	8.6	5.2	NA	NA	NA	NA	NA	NA	System off, hi pre-cat temp alarm. Restart.
04-Aug-05	On	468	100	15.9	764	3.9	4.3	NA	NA	NA	NA	NA	NA	
11-Aug-05	On	635	100	20.8	759	5.9	2.1	NA	NA	NA	NA	NA	NA	
18-Aug-05	On	801	99	24.2	748	1.3	1.3	NA	NA	NA	NA	NA	NA	
25-Aug-05	Off	969	100	26.2	814	1.8	1.8	7.1	ND<1.2	ND<2.8	5.3	ND<0.059	ND<2.8	Shut down system.

Notes:

Benzene = Influent Benzene by BPA Method 8260B

Benzene = Effluent Benzene by BPA Method 410A (modified)

cfm = Cubic feet per minute

Conc. = Concentration

Cum. = Cumulative

Deg F = Degrees Fahrenheit

lab-ppmv = Laboratory reported concentration - parts per million by volume

lbs = Pounds

MTBE = Methyl tertiary butyl ether by Environmental Protection Agency Method 8260B

NA = Not applicable/available

ND = Not detected at or above detection limit

PID-ppmv = Field reading - parts per million by volume (by photionization or flame ionization detector)

SVE = Soil vapor extraction

Temp. = Temperature

VFH = Volatile fuel hydrocarbons by Environmental Protection Agency (EPA) Method 8015 (modified)

VOC = Volatile organic compound

TABLE 2
INDIVIDUAL WELLHEAD CONCENTRATION DATA
ARCO FACILITY NO. 3081
12201 MOUNTAIN AVENUE
CHINO, CALIFORNIA

Monitored Date	BC1-D			BC1-M			VIEW-1			VIEW-2			VIEW-3			VIEW-5		
	VOC Cone. (ppmv)	Status Departure (%Open)																
25-May-05	12	100%	10	100%	4	100%	4	100%	9	100%	4	100%	9	100%	4	100%	4	100%
1-Jun-05	NA	NA																
14-Jul-05	3.7	100%	NA	NA	NA	NA	NA	NA	3.6	100%	NA	NA	NA	NA	NA	27.4	100%	
18-Jul-05	6.9	100%	NA	NA	NA	NA	NA	NA	9.4	100%	NA	NA	NA	NA	NA	27.7	100%	
21-Jul-05	5.0	100%	NA	NA	NA	NA	NA	NA	6.3	100%	NA	NA	NA	NA	NA	2.4	100%	
25-Jul-05	2.2	100%	NA	NA	NA	NA	NA	NA	2.3	100%	NA	NA	NA	NA	NA	2.4	100%	
28-Jul-05	3.2	100%	NA	NA	NA	NA	NA	NA	4.3	100%	NA	NA	NA	NA	NA	77.2	100%	
4-Aug-05	3.7	100%	NA	NA	NA	NA	NA	NA	4.0	100%	NA	NA	NA	NA	NA	3.4	100%	
11-Aug-05	3.5	100%	NA	NA	NA	NA	NA	NA	4.1	100%	NA	NA	NA	NA	NA	3.0	100%	
18-Aug-05	0.6	100%	NA	NA	NA	NA	NA	NA	0.3	100%	NA	NA	NA	NA	NA	0.0	100%	
25-Aug-05	0.5	100%	NA	NA	NA	NA	0%	0.8	100%	NA	0%	NA	0%	NA	0.1	100%		

Notes:

VOC = Volatile organic compound

Cone. = Concentration

ppmv = Parts per million by volume

NA = Not available/applicable/measured

TABLE 3

INDIVIDUAL WELL VAPOR ANALYTICAL DATA
 ARCO FACILITY NO. 3081
 12201 MOUNTAIN AVENUE
 CHINO, CALIFORNIA

Well I.D.	Date Sampled	VFH (ppmv)	B (ppmv)	T (ppmv)	E (ppmv)	X (ppmv)	MTBE (ppmv)	DPE (ppmv)	ETBE (ppmv)	TAME (ppmv)	TBA (ppmv)	Ethanol (ppmv)
Influent	5/25/2005	2.6	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND>2.4	ND>2.7	ND>2.4	ND<33	ND<160	ND<160
Influent	7/28/2005	7.1	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	NA	NA	NA	NA	NA
Influent	8/25/2005	7.1	ND<1.2	ND<1.1	ND<0.92	1.2	ND<2.8	NA	NA	NA	NA	NA
BC1-D	5/25/2005	ND<2.4	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
BC1-D	8/25/2005	6.0	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
BC1-M	5/25/2005	ND<2.4	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
VEW-1	5/25/2005	ND<2.4	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
VEW-2	5/25/2005	ND<2.4	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
VEW-2	8/25/2005	3.7	ND<1.2	1.1	ND<0.92	2.2	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
VEW-3	5/25/2005	ND<2.4	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
VEW-5	5/25/2005	ND<2.4	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
VEW-5	8/25/2005	2.6	ND<1.2	ND<1.1	ND<0.92	1.9	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<160	ND<160
Effluent	5/25/2005	5.0	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	ND<2.4	ND<2.7	ND<2.4	ND<33	ND<160
Effluent	7/28/2005	5.9	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	NA	NA	NA	NA	NA
Effluent	8/25/2005	5.3	ND<1.2	ND<1.1	ND<0.92	ND<1.8	ND<2.8	NA	NA	NA	NA	NA

Notes: VFH = Volatile fuel hydrocarbons by Environmental Protection Agency (EPA) Method 8015

B = Benzene by EPA Method 8260

T = Toluene by EPA Method 8260

E = Ethylbenzene by EPA Method 8260

X = Xylenes by EPA Method 8260

MTBE = Methyl-tert-butyl Ether by EPA Method 8260

DPE = Di-isopropyl Ether by EPA Method 8260

ETBE = Ethyl tert-Butyl Ether by EPA Method 8260

TAME = Tert-Amyl Methyl Ether by EPA Method 8260

TBA = Tertiary Butyl Alcohol by EPA Method 8260

ppmv = Parts per million by volume

ND<1.6 = Not detected at or above stated laboratory reporting limit

NA = Not available

Bold laboratory value denotes concentration that exceeds AQMD permit requirement.

ATTACHMENT A

Supporting Documents

COUNTY FIRE DEPARTMENT

COUNTY OF SAN BERNARDINO
ECONOMIC DEVELOPMENT
AND PUBLIC SERVICES GROUP



OF THE FIRE MARSHAL
HAZARDOUS MATERIALS DIVISION
620 South "E" Street • San Bernardino, CA 92415-0153
(909) 386-8401 • Fax (909) 386-8460

August 12, 2002

PETER R. HILLS
Fire Chief
County Fire Warden

ARCO PRODUCTS
4 CENTERPOINTE DR
LA PALMA CA 90623-1066

AUG 19 2002

ATTENTION: GORDON TERHUNE

SUBJECT: AMENDMENT TO THE REMEDIAL ACTION PLAN, ARCO
FACILITY # 3081, 12201 MOUNTAIN AVENUE, CHINO CA
SITE # 93053

Department staff has reviewed the subject document submitted by Delta Environmental Consultant, Inc. on August 5, 2002. The amendment is approved provided the following conditions are met:

1. If MtBE is detected, in the air samples, using EPA Methods 8021b or 8020 then it must be confirmed using EPA Method 8260.
2. Prior to the installation of the confirmation boring, the Department must receive, review and comment on the results of the SVE activity.
3. This office must be notified and an appointment must be made at least 5 working days in advance of any boring or sampling activity, so that a Department representative may be scheduled to be present.

If you have questions, please call me at (909) 387-3041.

A handwritten signature in black ink that reads "Betti MacGregor".

BETTI MACGREGOR
ENVIRONMENTAL HEALTH SPECIALIST II
HAZARDOUS MATERIALS DIVISION
SITE REMEDIATION/LOCAL OVERSITE PROGRAM

Cc: Dennis Rourke, Delta Environmental Consultants, Inc.

JONATHAN J. MCGOWAN
County Administrative Officer
620 N. E St.
San Bernardino, CA 92415-0153
(909) 386-8401
Fax (909) 386-8460
Email: jmcgowan@co.sanbernardino.ca.us
County Fire Services Group

Board of Supervisors
BILL POSTWICH First District DEBORAH WILHELMER Third District
JIM D. PEREGRIN Second District ERIC VELASCO Fourth District
JERRY ZAWIS Fifth District



27141 Aliso Creek Road
Suite 270
Aliso Viejo, California 92656-5305
U.S.A.
949/362-3077
FAX: 949/362-0290

July 29, 2002

Ms. Betti MacGregor
San Bernardino County Fire Department
Hazardous Materials Division
385 North Arrowhead Avenue
San Bernardino, California 92415-0153

Subject: Amendment to the Remedial Action Plan
ARCO Facility No. 3081
12201 Mountain Avenue
Chino, California

Dear Ms. MacGregor:

On behalf of Atlantic Richfield Company (ARCO), Delta Environmental Consultants, Inc. (Delta) has prepared this amendment to the April 26, 2000 *Remedial Action Plan* (the RAP) for ARCO Facility No. 3081 (the Site; Figure 1), located at 12201 Mountain Avenue in the City of Chino, California. This correspondence is submitted in response to the June 17, 2002 letter to Atlantic Richfield Company from the San Bernardino County Fire Department (SBCFD) requesting the submittal of a work plan to address the clean up at the Site. The June 17, 2002 letter from the SBCFD was in response to the soil vapor extraction (SVE) data presented in the *Second Quarter 2002 Status Report* and the *Closure Request*, both documents were dated May 14, 2002 and were prepared by The Shaw Group Inc. This amendment to the RAP proposes the implementation of additional SVE activities at the Site.

Remediation History

In April 1996, Brown and Caldwell (B&C) performed a SVE test. The results of the test indicated a radius of influence of 25 to 30 feet for the Site.

On June 1999, an eight-day SVE test was conducted by Pinnacle. Pinnacle estimated that 156 pounds of hydrocarbons were removed during the B&C conducted test and 16.24 pounds of hydrocarbons were removed during the June 1999 test.

Following approval of the RAP, the Shaw Group Inc. performed SVE activities from May 5, 2001 to April 18, 2002 using an internal combustion engine and SVE wells VEW-1, VEW-2, VEW-3, VEW-5, BCI-D, and BCI-M. Due to difficulties with the SVE equipment, the actual operating time was equivalent to approximately 80 days. Laboratory analysis of vapor samples collected on April 18, 2002 indicated no detectable concentrations of benzene, toluene, ethylbenzene, xylenes (BTEX), or methyl *tert*-butyl ether (MTBE) in any of the well head samples collected except for 51, 4.7, and 14 parts per million by volume (ppmv) of MTBE in wells VEW-2, VEW-5, and BCI-D, respectively.

Amendment to the Remedial Action Plan

ARCO Facility No. 3081
Chino, California
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Proposed Additional Remedial Activities

To address the remaining MTBE concentrations detected in wells VEW-2, VEW-5, and BCI-D, Delta proposes that additional SVE activities be conducted on those wells. The proposed system will utilize an electric catalytic oxidizer, carbon canisters, or a similar system for vapor abatement. The following scope of work is proposed:

- Apply for an electrical permit with the City of Chino for the installation of a temporary power pole.
- Install temporary power pole at the on-site remediation enclosure.
- Obtain a mobile SVE system utilizing an electric catalytic oxidizer, carbon canisters, or similar technology for vapor abatement. The selected SVE system will be capable of providing at least 100 standard cubic feet per minute of flow at eight inches of mercury of vacuum.
- The SVE system will be installed within the current on-site remediation enclosure and will be connected to wells VEW-2, VEW-5, and BCI-D using the current on-site SVE manifold. Although other wells are also connected to the SVE manifold, only wells VEW-2, VEW-5, and BCI-D will be used for the additional SVE activities.
- The SVE system will be operated in compliance with South Coast Air Quality Management District (SCAQMD) permit requirements.
- The SVE system will be operated for 30 days. At the end of 30 days of operation, individual wellhead samples will be collected from wells VEW-2, VEW-5, and BCI-D and the system will be turned off.
- If laboratory analyses of individual wellhead samples indicate MTBE concentrations of less than 10 ppmv, then the system will remain off. If laboratory analysis indicates greater than 10 ppmv MTBE in the sample from one or more wells, the SVE operations will be continued for additional 30-days on those wells exhibiting MTBE concentrations greater than 10 ppmv.
- The SVE system will be operated on consecutive 30-day operating periods until laboratory analysis confirms less than 10 ppmv of MTBE all three wells (VEW-2, VEW-5, and BCI-D).
- Vapor samples collected will be analyzed for BTEX, and MTBE by Environmental Protection Agency (EPA) Method 8021.
- Any additional laboratory analysis required to be performed to maintain compliance with SCAQMD requirements will also be performed.

Confirmation Boring

At the completion of the SVE activities, Delta will advance one confirmation soil boring. The following scope of work is proposed:

Amendment to the Remedial Action Plan

ARCO Facility No. 3081

Chino, California

Page 3

- Prepare a site-specific Health and Safety Plan. A copy of the Health and Safety Plan will be on-site during all Delta-monitored field events.
- Mark the proposed boring location and notify Underground Service Alert and Atlantic Richfield Company of the scheduled field activities. The proposed confirmation boring will be located between wells VEW-3 and BC-1.
- Advance one confirmation soil boring to 65 feet below ground surface. Collect soil samples at 5-foot intervals during the drilling of the soil boring. The samples will be collected using three 2.5- by 6-inch precleaned brass sleeves contained within a modified California-type, split-spoon sampler. Prior to initiating the sampling and between each sampling event, all sampling equipment will be washed with a phosphate-free detergent and water solution and double rinsed with deionized water. Of the three sample sleeves, the deepest, intact soil sample sleeve at each sample interval will have the sleeve ends lined with Teflon™ sheets, capped, and sealed. The sample will then be labeled, placed in a resealable plastic bag, and stored in an ice-chilled container. Chain-of-custody procedures will be followed from the time the sample is collected until the time it is relinquished to the laboratory. Soil not retained for analysis will be field screened using a photoionization detector, used for soil classification, and will be noted on individual soil boring logs. Upon reaching terminal depth, the soil boring will be backfilled with bentonite grout and the surface repaired to match the surrounding surface.
- Submit all soil samples collected to an Atlantic Richfield Company-contracted and California Department of Health Services-certified laboratory, for analysis. All samples collected will be analyzed for total petroleum hydrocarbons as gasoline according to EPA Method 8015B and for BTEX, MTBE, di-isopropyl ether, ethyl tertiary butyl ether, tertiary amyl methyl ether, and tertiary butyl alcohol according to EPA Method 8260B.
- Soil and wastewater generated during the activities will be contained in Department of Transportation-approved, 55-gallon drums. The drums will be labeled and stored on-site pending disposal.

Reporting

- Prepare a summary report of all field activities and analytical results for submittal to the SBCFD, and, if warranted, request site closure.

Schedule

Delta will begin installing the remediation system upon review and approval of this RAP amendment by the SBCFD.

Amendment to the Remedial Action Plan

ARCO Facility No. 3081

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Page 4

If you have any questions concerning this amendment to the RAP, please contact Dennis Rourke (949) 360-5791.

Sincerely,

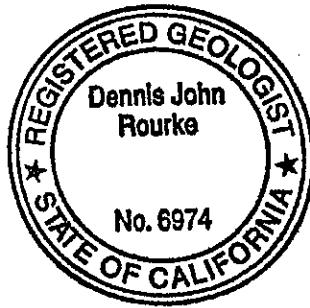
DELTA ENVIRONMENTAL CONSULTANTS, INC.



Dennis Rourke, R.G.

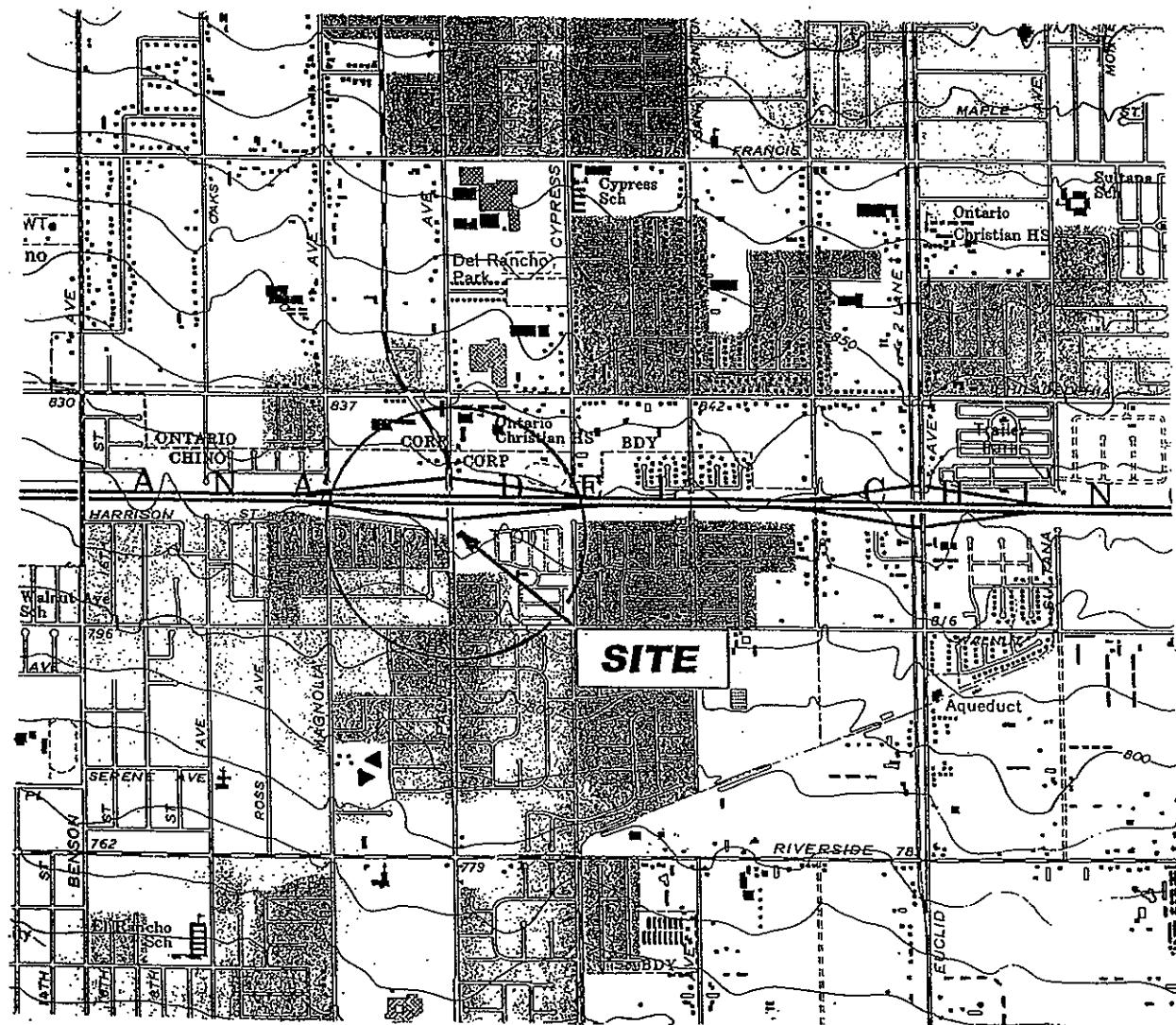
California Registered Geologist No. 6974

Attachments: Figure 1 Site Location Map
 Figure 2 Site Map
 Attachment A - Previous SVE Data



cc: Mr. Gordon Terhune, Atlantic Richfield Company, La Palma, California
 Ms. Valerie Jahn, California Regional Water Quality Control Board, Riverside, California

(q:\pbwest\soical\3081\rap.doc)



GENERAL NOTES:

BASE MAP FROM U.S.G.S. 1967

ONTARIO QUADRANGLE

CHINO, CA

7.5 MINUTE TOPOGRAPHIC MAP
PHOTOREVISED 1981



QUADRANGLE LOCATION

FIGURE 1

**SITE LOCATION MAP
ARCO FACILITY NO. 3081
12201 MOUNTAIN AVENUE
CHINO, CA**

PROJECT NO.	DRAWN BY	
AM00-807		
FILE NO.	PREPARED BY	
SLM 1	C. OTA	
DATE	REV.	REVIEWED BY
6/24/02		



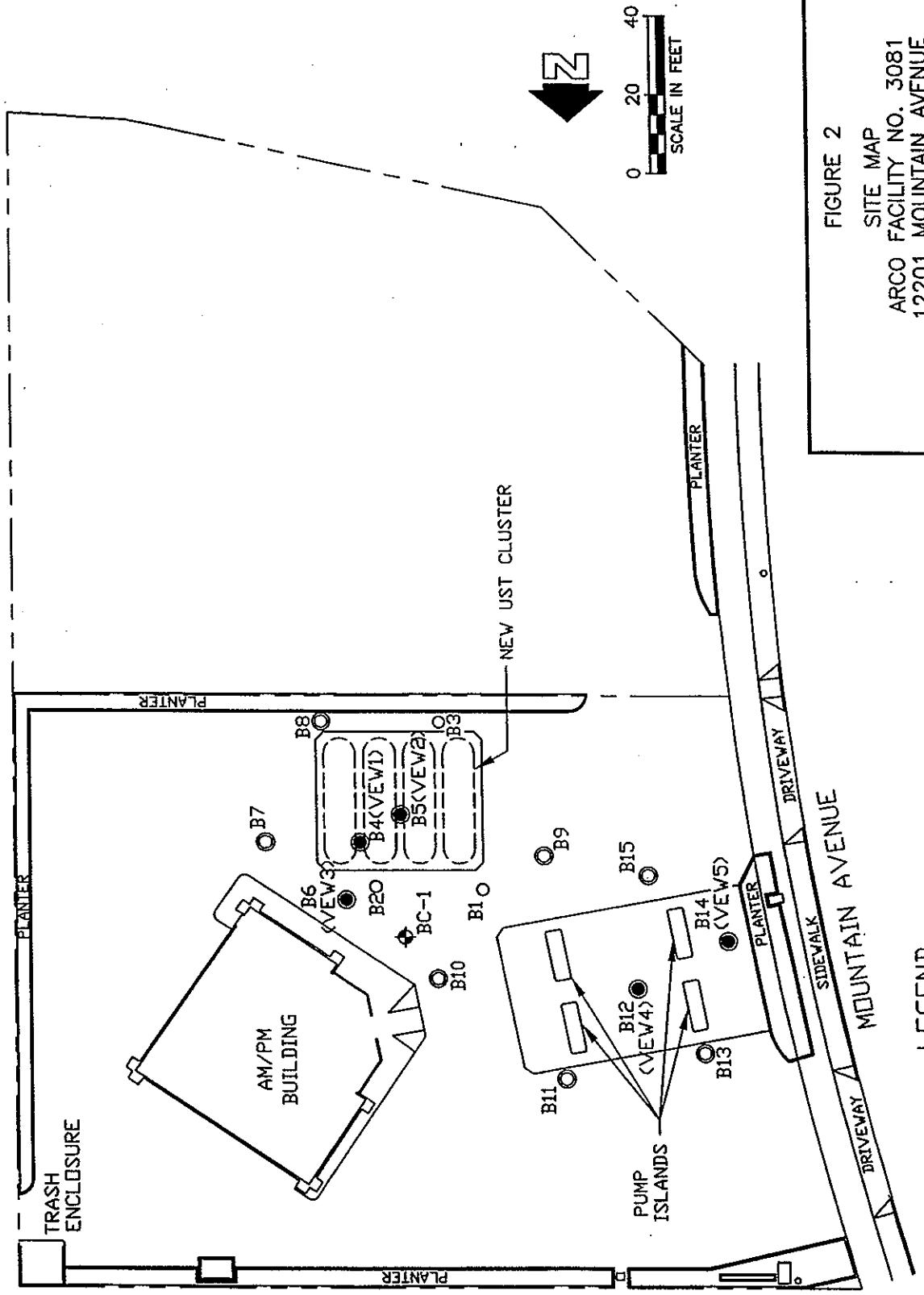


FIGURE 2

SITE MAP
ARCO FACILITY NO. 3081
12201 MOUNTAIN AVENUE
CHINO, CA.



- LEGEND**
- BC-1 ♦ VADOSE MONITORING WELL (BROWN AND CALDWELL, 6/95)
 - SOIL BORING LOCATIONS (W.W. IRWIN, 8/93)
 - SOIL BORING LOCATIONS (W.W. IRWIN, 5/94)
 - VAPOR EXTRACTION WELL LOCATIONS (W.W. IRWIN, 5/94)

PROJECT NO.	DRAWN BY
AM00-807	
FILE NO.	PREPARED BY
A0-807-01	A. BAIRD
DATE	REV. REVIEWED BY
19 JUN 02	0

ATTACHMENT A

Supporting Documents

ARCO PRODUCTS COMPANY VES OPERATING REPORT
ARCO Service Station 3081, Chino, CA
2nd Quarter, 2002

Facility #: 3081
Facility Address: 12201 Mountain Ave.
ARCO Engineer: Gordon Terhune
Consultant: IT Corporation
Lead Agency: San Bernardino County Fire Department
Reporting Period: Apr 1, 02 through May 15, 02

Equipment Inventory: Remediation Service International Model V3
Internal combustion engine model no. LSG-875

Operating Mode: Thermal Oxidation
AQMD Permit #, A/N: 331826

	Date	Units	
Average TVH (as Isobutylene) Conc. this period:	5/15/02	10	ppmv
Average Benzene Conc. end of period:	5/15/02	0.0	ppmv
Average Flowrate end of period:	5/15/02	58	scfm

Lbs. HC destroyed this period:	40	lbs (est)
Lbs. HC destroyed per operational day this period:	6.5	lbs/day (est)
Lbs. HC destroyed to date:	936	lbs (est)
Lbs. Benzene destroyed this period:	0	lbs (est)
Lbs. Benzene destroyed per operational day this period:	0	lbs/day (est)
Lbs. Benzene destroyed to date:	0	lbs (est)

Utility Usage (this period):

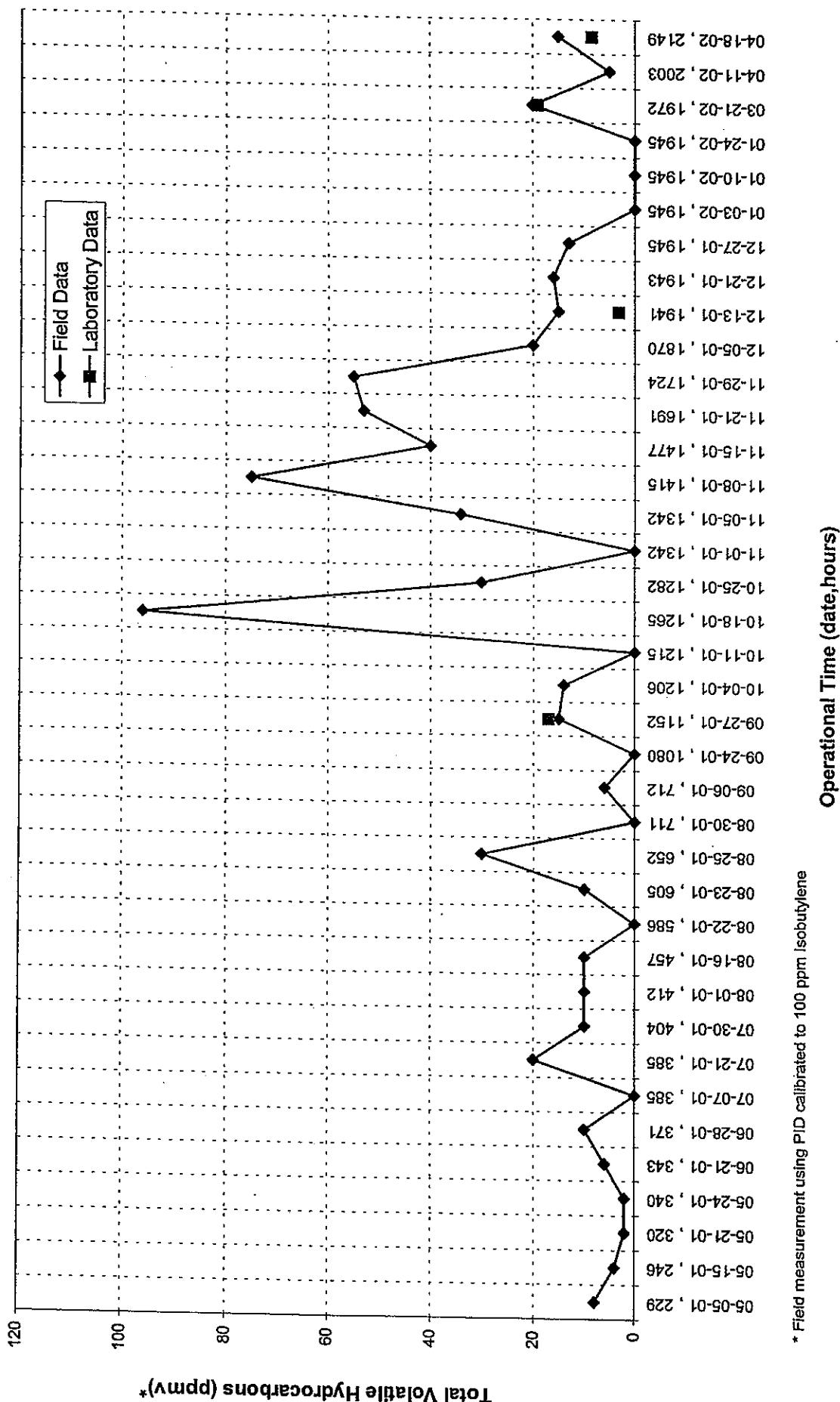
Electrical:	NA	KWH (est)
Gas/Propane:	NA	CCF (est)

LB HC destroyed/\$ Utilities:

1 KWH = \$0.11760	NA	lbs/\$
1 CF = \$0.643	NA	lbs/\$

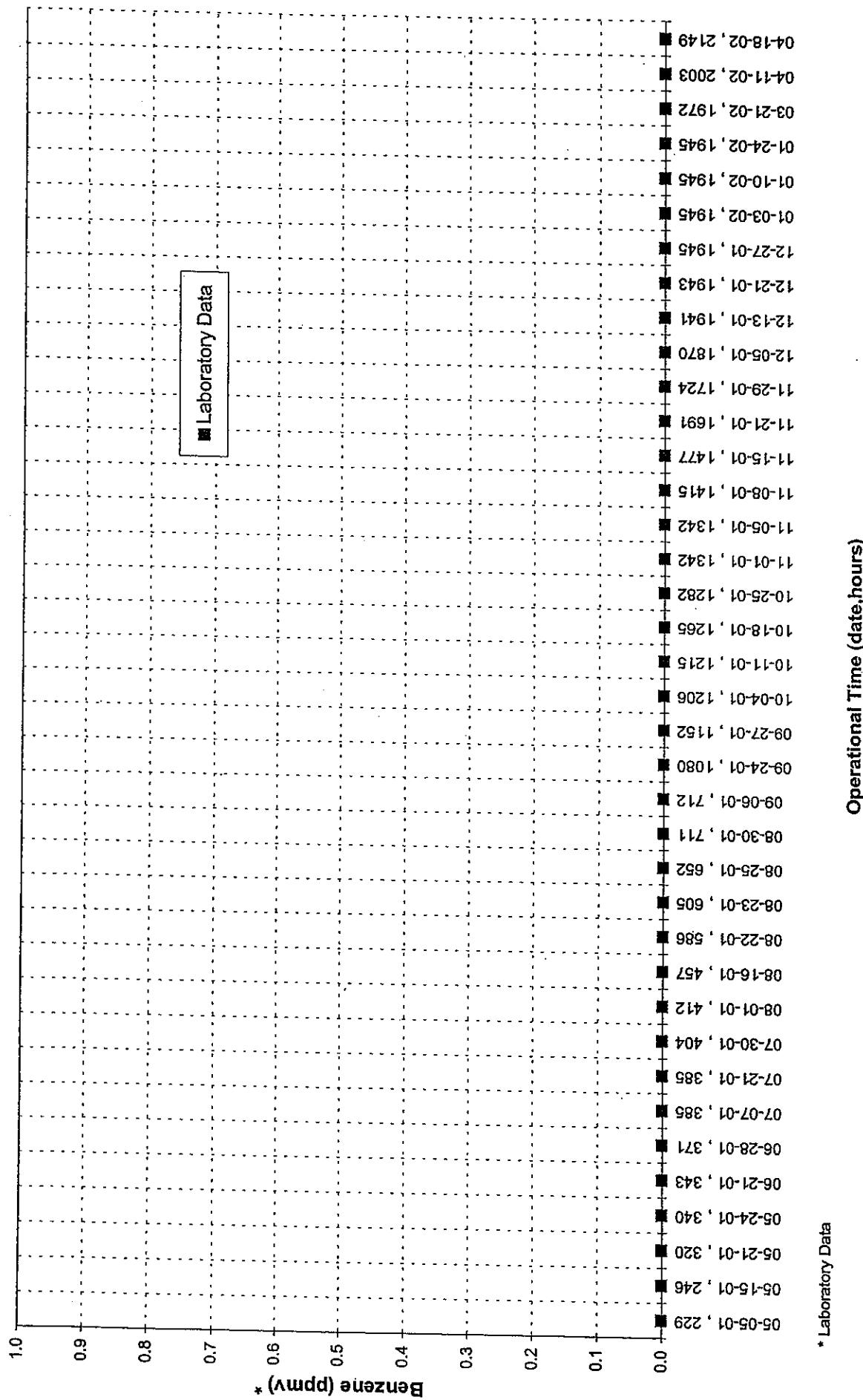
	Date	Units	
Operating Hrs. this period:	5/15/02	146	hrs.
Percent up time this period:	5/15/02	14	%
Operating Hrs. to date:	5/15/02	1,929	hrs.
Number of Auto shut downs:	5/15/02	1	

Figure 1
TVH Concentrations* versus Operational Time
ARCO SS #3081, Chino, CA



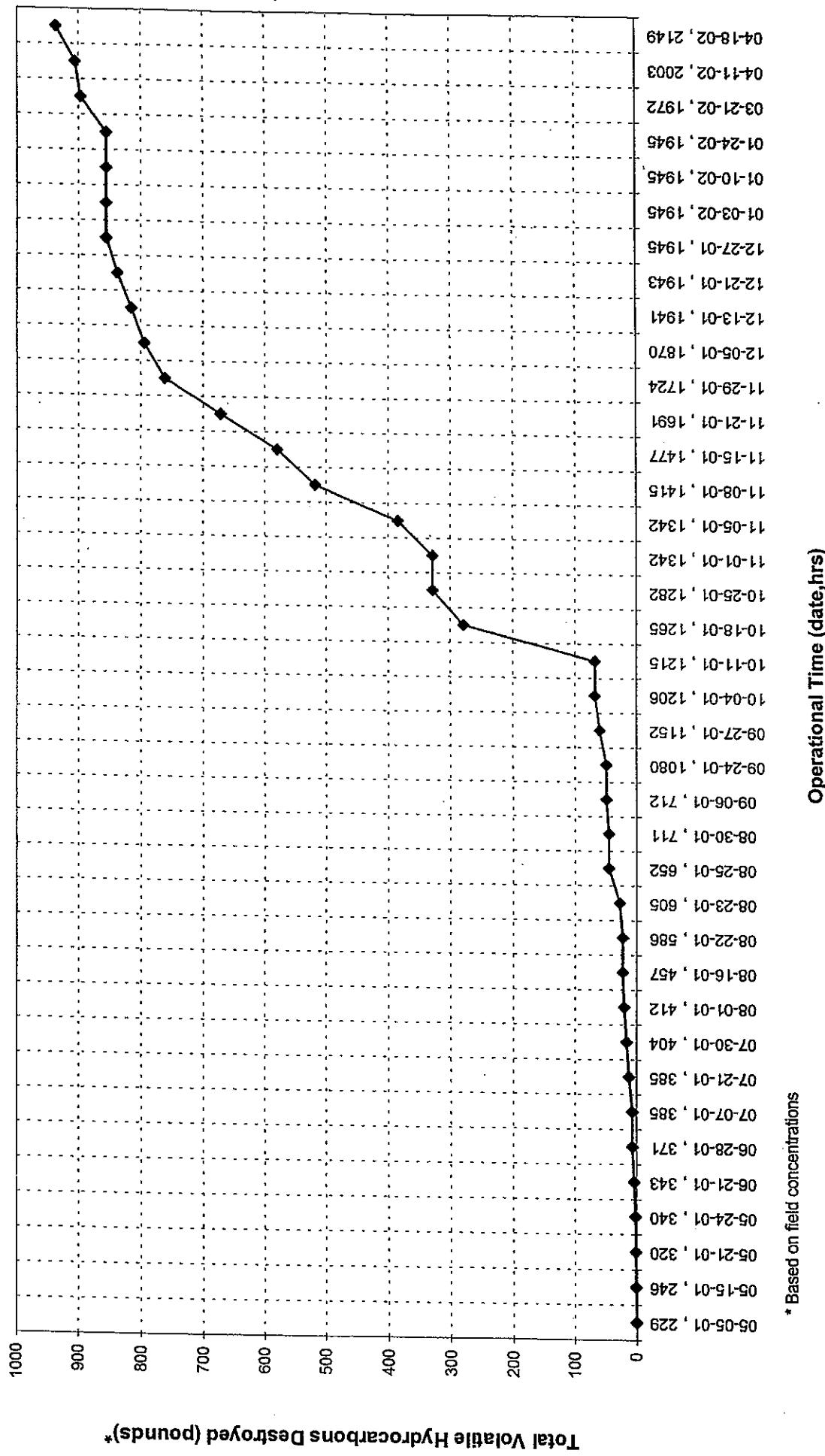
* Field measurement using PID calibrated to 100 ppm Isobutylene

Figure 2
Benzene Concentrations* versus Operational Time
ARCO SS #3081, Chino, CA



* Laboratory Data

Figure 3
TVH Mass Destroyed* versus Operational Time
ARCO SS #3081, Chino, CA



* Based on field concentrations

Table 1
Vapor Extraction System Operational Data
Arco Service Station No. 3081
Chino, California

Date	Operation Time (Hours)	Date, Hours	Cumulative Operation Time (Hours)	Total Vacuum (inHg)	Flow Rate (cfm)	TVH Conc. (Before Dilution) (ppm)*	Benzene Conc. (Before Dilution) (ppm)*	TVH Conc. (After Dilution) (ppm)*	Benzene Conc. (After Dilution) (ppm)*	Effluent Conc. (ppm)*	TVH Mass Recovered (lbs.)	Cumulative TVH Mass Recovered (lbs.)	Benzene Mass Recovered (lbs.)	Cumulative Benzene Mass Recovered (lbs.)
5/15/01	229	05-05-01, 229	9	49.3	8	NA	NA	8	NA	68	1.4	0	0.0	0.0
5/15/01	246	05-15-01, 246	26	5	48.0	4	NA	4	NA	110	0.8	0.8	0.0	0.0
5/21/01	320	05-21-01, 320	100	4	45.2	2	NA	2	NA	140	0.5	1.2	0.0	0.0
5/24/01	340	05-24-01, 340	120	4	31.9	NA	NA	2	NA	166	0.3	1.6	0.0	0.0
5/21/01	343	08-21-01, 343	123	5	60.4	6	NA	6	NA	22	2.0	3.5	0.0	0.0
5/28/01	371	08-28-01, 371	151	6	45.7	10	NA	10	NA	14	2.7	6.2	0.0	0.0
7/7/01	385	07-07-01, 385	185	NA	NA	NA	NA	NA	NA	NA	NA	6.2	NA	0.0
7/21/01	385	07-21-01, 385	185	4	42.0	20	NA	20	NA	30	5.1	11.3	0.0	0.0
7/30/01	404	07-30-01, 404	184	6	60.4	10	NA	10	NA	30	3.9	15.2	0.0	0.0
8/1/01	412	08-01-01, 412	192	8	60.0	10	NA	10	NA	30	3.9	18.1	0.0	0.0
8/16/01	457	08-16-01, 457	237	5	34.9	10	NA	10	NA	69	2.5	21.6	0.0	0.0
8/22/01	568	08-22-01, 568	388	NA	NA	NA	NA	NA	NA	NA	NA	21.6	0.0	0.0
8/23/01	605	08-23-01, 605	395	7	65.2	10	NA	10	NA	50	5.3	26.9	0.0	0.0
8/25/01	652	08-25-01, 652	432	7	55.2	30	NA	30	NA	60	17.1	44.0	0.0	0.0
8/30/01	711	08-30-01, 711	491	NA	NA	NA	NA	NA	NA	NA	NA	44.0	0.0	0.0
9/8/01	742	09-08-01, 712	492	4	60.4	5	NA	5	NA	30	4.1	48.1	0.0	0.0
9/24/01	1080	09-24-01, 1080	850	5	28.8	0	NA	0	NA	19	0.0	46.1	0.0	0.0
9/27/01	1152	09-27-01, 1152	932	3	40.0	15	(17)	NA	(<1.6)	23	(<2.4)	10.9	59.0	0.0
10/4/01	1288	10-04-01, 1288	986	2	30	14	NA	14	NA	18	8.0	67.1	0.0	0.0
10/11/01	1215	10-11-01, 1215	995	NA	NA	NA	NA	NA	NA	NA	NA	67.1	0.0	0.0
10/21/01	1285	10-18-01, 1285	1045	40	110.03	96	NA	NA	NA	3	NA	211.5	278.6	0.0
10/25/01	1292	10-25-01, 1292	1092	35	31.6	30	NA	30	NA	9	49.8	328.4	0.0	0.0
11/1/01	1342	11-01-01, 1342	1122	NA	NA	NA	NA	NA	NA	NA	NA	NA	328.4	0.0
11/6/01	1342	11-06-01, 1342	1122	25	78.0	34	NA	34	NA	3	NA	56.3	384.7	0.0
11/8/01	1415	11-08-01, 1415	1135	25	79	75	NA	75	NA	4	NA	132.7	517.5	0.0
11/15/01	1477	11-15-01, 1477	1287	15	66	40	NA	40	NA	4	NA	61.7	579.2	0.0
11/21/01	1691	11-21-01, 1691	1471	15	65	53	NA	53	NA	7	NA	92.2	671.4	0.0
11/28/01	1724	11-28-01, 1724	1504	15	60	55	NA	55	NA	15	NA	50.1	761.5	0.0
12/5/01	1870	12-05-01, 1870	1650	14	59	20	NA	20	NA	39	33.2	33.2	794.7	0.0
12/9/01	1941	12-09-01, 1941	1721	12	45	15	(32)	NA	(<1.2)	15	(5.0)	20.7	815.4	0.0
12/21/01	1943	12-21-01, 1943	1723	14	48	16	NA	16	NA	34	22.6	NA	838.0	0.0
12/27/01	1945	12-27-01, 1945	1725	12	44	13	NA	13	NA	22	17.8	855.6	0.0	0.0
1/3/02	1945	01-03-02, 1945	1725	NA	NA	NA	NA	NA	NA	NA	NA	855.6	0.0	0.0
1/10/02	1945	01-10-02, 1945	1725	NA	NA	NA	NA	NA	NA	NA	NA	855.6	0.0	0.0
1/24/02	1945	01-24-02, 1945	1725	NA	NA	NA	NA	NA	NA	NA	NA	855.6	0.0	0.0
3/21/02	1972	03-21-02, 1972	1782	18	66.0 ^b	20	(19)	NA	(<1.2)	20	(30)	41.2	895.9	0.0
4/11/02	2003	04-11-02, 2003	1783	10	55.2	5	NA	5	NA	25	8.8	505.6	0.0	0.0
4/18/02	2149	04-18-02, 2149	1929	15	60.4	15	(8.5)	NA	(<1.2)	20	(11)	30.8	939.4	0.0

* Flow rate interpolated. Original value obtained in field is questionable.

^aConcentration values shown in parentheses represents laboratory results

1) PID calibrated to 100 ppm Isobutylene

2) TVH Mass Recovery Calculation:

$$\text{lbs. TVH} = \frac{(\text{ppm}) \times (\text{Volume}) \times (\text{SCFM}) \times (10^{-6})}{(1 \times 10^6) \times (\text{lb-mole})}$$

3) NA = Not Analyzed

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TABLE 2
Vapor Extraction System Operational Data
ARCO Service Station No. 3081
Chino, California

Date	VEN-1				VEN-2				VEN-3				
	% Open	Vacuum	TVH Concentration*	CO ₂ %	% Open	Vacuum	TVH Concentration*	CO ₂ %	% Open	Vacuum	TVH Concentration*	CO ₂ %	O ₂ %
5/5/01	100	4	20	11.95	—	100	4	8	10.58	—	100	4	4
5/5/01	100	4	12	11.64	7.98	100	4	8	10.56	9.88	100	4	6.82
5/21/01	100	3	6	10.62	10.3	100	3	8	10.92	10.84	100	3	5.78
5/24/01	100	3	4	10.82	10.08	100	3	6	11	9.98	100	3	0
5/24/01	100	4	8	9.48	9.92	100	4	10	8.5	12.12	100	4	4
5/24/01	100	6	16	8.95	12.04	100	6	26	9.48	11.88	100	6	4
5/28/01	100	6	—	—	—	—	—	—	—	—	—	—	3.98
5/27/01	System down				System down				System down				
7/22/01	100	3	10	8.54	10.13	100	3	10	8.84	11.41	100	3	10
7/22/01	100	5	10	8.38	10.37	100	5	10	8.81	11.4	100	5	10
7/29/01	100	6	10	8.49	10.2	100	6	10	8.89	11.3	100	6	10
8/1/01	100	4	10	7.29	11.38	100	4	10	8.08	11.17	100	4	0
8/1/01	100	4	—	—	—	—	—	—	—	—	—	—	3.77
8/22/01	Propane tank empty				Propane tank empty				Propane tank empty				
8/23/01	100	6.0	10	4.97	14.48	100	6	40	7.78	11.97	100	14.5	10
8/25/01	100	6.0	20	4.38	14.73	100	6	30	7.61	12.17	100	14.5	20
8/25/01	Propane tank empty				Propane tank empty				Propane tank empty				
9/6/01	100	3.0	—	5.02	15.18	100	3	17	7.78	13.94	100	3.0	1
9/24/01	—	—	—	—	—	100	4	52	6.4	15.28	—	—	—
9/27/01	100	2	—	4.90	16.18	100	2	54	6.22	15.40	100	2	1
10/4/01	100	1	26	5.01	15.92	100	1	49	6.02	15.65	—	—	—
10/11/01	System down				System down				System down				
10/11/01	100	34	160	3.16	18.26	100	34	60	5.94	15.82	100	12	3
10/25/01	100	33	13	3.34	16.80	100	33	45	5.58	16.02	—	—	—
11/1/01	Propane tank empty				Propane tank empty				Propane tank empty				
11/15/01	100	20	12	3.16	17.84	100	20	50	5.48	16.14	—	—	—
11/18/01	100	20	163	2.68	18.62	100	20	58	5.20	16.50	—	—	—
11/19/01	100	10	5	2.74	17.82	100	10	48	5.00	16.82	—	—	—
11/21/01	100	10	65	2.92	19.10	100	10	46	4.00	17.54	—	—	—
11/23/01	100	10	70	2.80	19.30	100	10	44	4.98	18.04	—	—	—
11/25/01	100	10	24	4.68	16.68	100	10	27	4.94	16.60	—	—	—
12/1/01	100	10	2(6.7)	3.04	16.64	100	10	27	3.32	17.42	—	—	—
12/2/01	100	10	6	3.72	16.44	100	10	24	5.14	16.38	—	—	—
12/2/01	100	10	4	3.54	16.62	100	10	20	4.96	16.64	—	—	—
12/27/01	Unit down on arrival				Unit down on arrival				Unit down on arrival				
1/1/02	Unit down on arrival				Unit down on arrival				Unit down on arrival				
1/24/02	100	18	50 / (79)	NA	NA	100	16	70 / (90)	NA	—	—	—	—
3/21/02	100	8	2	4.44	16.04	100	8	4.85	16.80	100	8	2	4.16
4/21/02	100	4	2(7.8)	3.10	17.95	100	8	30 / (24)	4.44	16.88	100	14	11 / (5.4)

* Field measurement using PID calibrated to 100 ppm Isobutylene

• NA - Not Available due to high water content in the vapor concentration stream

•**C**onceptualization
•**S**ystem design
•**P**roject management
•**E**xecution
•**A**daptation

TABLE 2
Vapor Extraction System Operational Data
ARCO Service Station No. 3081
Chino, California

Date	VEM-5						BC1-d						BC1-m					
	% Open	Vacuum	TVH Concentration*	CO ₂ %	O ₂ %	% Open	Vacuum	TVH Concentration*	CO ₂ %	O ₂ %	% Open	Vacuum	TVH Concentration*	CO ₂ %	O ₂ %			
5/15/01	100	4	0	3.9	-	100	4	12	7.06	-	100	4	4	10.18	-	-	-	
5/15/01	-	-	-	-	-	-	-	-	-	-	100	4	4	10.12	9.96	-	-	
5/21/01	-	-	-	-	-	-	-	-	-	-	100	3	0	9.88	11.76	-	-	
5/24/01	-	-	-	-	-	-	-	-	-	-	100	3	0	10.1	11.2	-	-	
5/21/01	-	-	-	-	-	-	-	-	-	-	100	4	6	8.14	12.32	-	-	
6/2/01	-	-	-	-	-	-	-	-	-	-	100	6	4	8.46	12.96	-	-	
6/28/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/01	System down						System down						System down					
7/22/01	-	-	-	-	-	-	-	-	-	-	100	3	10	7.96	12.37	-	-	
7/30/01	-	-	-	-	-	-	-	-	-	-	100	5	10	7.31	12.49	-	-	
8/1/01	-	-	-	-	-	-	-	-	-	-	100	6	10	7.44	12.79	-	-	
8/16/01	-	-	-	-	-	-	-	-	-	-	100	4	0	7.21	11.96	-	-	
8/22/01	Propane tank empty						Propane tank empty						Propane tank empty					
8/23/01	100	6.0	-	4	14.53	100	6.0	20	8.14	9.1	100	6.0	30	5.79	13.81	-	-	
8/25/01	100	6.0	-	3.48	15.05	100	6.0	20	7.96	9.56	100	6.0	60	5.47	14.01	-	-	
8/30/01	Propane tank empty						Propane tank empty						Propane tank empty					
9/6/01	100	3.0	-	2	3.6	16.40	100	3.0	3	5.32	15.08	100	3.0	1	5.72	15.84	-	-
9/27/01	100	-	-	2	3	17.70	100	2	-	-	-	-	2	1	-	-	-	-
10/4/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/11/01	System down						System down						System down					
10/18/01	100	12	-	2	2.92	17.32	100	12	11	5.68	15.22	100	12	2	4.28	18.18	-	-
10/25/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/1/01	Propane tank empty						Propane tank empty						Propane tank empty					
11/5/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/8/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/15/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/19/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/21/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/26/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/1/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/13/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/21/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/27/01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/3/02	Unit down on arrival						Unit down on arrival						Unit down on arrival					
1/7/02	Unit down on arrival						Unit down on arrival						Unit down on arrival					
3/21/02	-	-	-	-	-	-	-	-	-	-	100	14	50	NA	3.66	16.72	-	-
4/11/02	-	8	-	1	3.04	17.78	100	8	9	97(4.1)	3.64	15.08	100	8	3	4.46	15.90	3.52
4/21/02	100	14	28(7.72)	2.05	18.70	100	8	9	97(4.1)	3.64	15.08	100	14	61(9.6)	3.52	17.98	-	-

- Field measurement using PID calibrated to 100 ppmv Isobutylene

• NA - Not Available due to high water content in the vapor concentration stream

Concentration value in parentheses represents laboratory results

Table 3 - Laboratory Vapor Data

ARCO Station 3081
12201 Mountain Ave.
Chino, CA

Well	Date and Time	VFH (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Biphenyl (ppmv)	Total Xylenes (ppmv)	MtBE (ppmv)
VEW-1	9/27/01 12:50 PM	3.8	<1.6	<1.3	<1.2	<1.2	<1.4
	12/13/01 2:15 PM	6.7	<1.2	<1.1	<0.92	<1.84	<2.8
	3/21/02 1:15 PM	79	<1.2	<1.1	<0.92	1.6	<2.8
	4/18/02 4:04 PM	3.8	<1.2	<1.1	<0.92	<1.84	<2.8
VEW-2	9/27/01 12:45 PM	70	<1.6	<1.3	<1.2	<1.2	<1.4
	12/13/01 2:10 PM	3.3	<1.2	<1.1	<0.92	<1.84	42
	3/21/02 1:20 PM	9.0	<1.2	<1.1	<0.92	1.0	39
	4/18/02 4:06 PM	<2.4	<1.2	<1.1	<0.92	<1.84	51
VEW-3	9/27/01 12:35 PM	<2.4	<1.6	<1.3	<1.2	<1.2	<1.4
	4/18/02 4:12 PM	5.4	<1.2	<1.1	<0.92	<1.84	<2.8
VEW-5	9/27/01 12:55 PM	<2.4	<1.6	<1.3	<1.2	<1.2	<1.4
	4/18/02 4:08 PM	72	<1.2	<1.1	<0.92	<1.84	4.7
BC1-D	9/27/01 12:30 PM	12	<1.6	<1.3	<1.2	<1.2	<1.4
	4/18/02 4:10 PM	4.1	<1.2	<1.1	<0.92	<1.84	14
BC1-M	9/27/01 12:40 PM	<2.4	<1.6	<1.3	<1.2	<1.2	<1.4
	4/18/02 4:14 PM	9.6	<1.2	<1.1	<0.92	<1.84	<2.8
Combined	9/27/01 1:00 PM	17	<1.6	<1.3	<1.2	<1.2	<1.4
	12/13/01 2:05 PM	3.2	<1.2	<1.1	<0.92	<1.84	21
	3/21/02 1:25 PM	19	<1.2	<1.1	<0.92	0.97	24
	4/18/02 4:02 PM	8.5	<1.2	<1.1	<0.92	<1.84	14
Exhaust	9/27/01 1:05 PM	<2.4	<1.6	<1.3	<1.2	<1.2	<1.4
	12/13/01 2:00 PM	5.0	<1.6	<1.3	<1.2	<1.2	42
	3/21/02 1:30 PM	30	<1.2	<1.1	<0.92	<1.84	<2.8
	4/18/02 4:00 PM	11	<1.2	<1.1	<0.92	<1.84	1.1

Notes:

VFH - volatile fuel hydrocarbons

MtBE - methyl-tert-butyl ether

ND - non-detect

ppmv - parts per million volume

% - percent

ATTACHMENT B

Laboratory Reports and Chain-of-Custody Documentation



Del Mar Analytical

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LABORATORY REPORT

Prepared For: Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Paul McCarter

Project: ARCO 3081, Chino

Sampled: 05/25/05
Received: 05/25/05
Issued: 06/06/05 15:37

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 22°C and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IOE1660-01	VEW1	Air
IOE1660-02	VEW2	Air
IOE1660-03	VEW3	Air
IOE1660-04	BC1-M	Air
IOE1660-05	VEW5	Air
IOE1660-06	BC1-D	Air
IOE1660-07	INFLUENT	Air
IOE1660-08	EFFLUENT	Air

Reviewed By:

Del Mar Analytical, Irvine
Pat Abe
Project Manager



Del Mar Analytical

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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05

Received: 05/25/05

VOLATILE FUEL HYDROCARBONS in Air (EPA 8015M.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOE1660-01 (VEW1 - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	ND	1	5/26/2005	5/26/2005		
Sample ID: IOE1660-02 (VEW2 - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	ND	1	5/26/2005	5/26/2005		
Sample ID: IOE1660-03 (VEW3 - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	ND	1	5/26/2005	5/26/2005		
Sample ID: IOE1660-04 (BC1-M - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	ND	1	5/26/2005	5/26/2005		
Sample ID: IOE1660-05 (VEW5 - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	ND	1	5/26/2005	5/26/2005		
Sample ID: IOE1660-06 (BC1-D - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	ND	1	5/26/2005	5/26/2005		
Sample ID: IOE1660-07 (INFLUENT - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	2.6	1	5/26/2005	5/26/2005		
Sample ID: IOE1660-08 (EFFLUENT - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)								
EPA 8015M	5E26063	2.4	5.0	1	5/26/2005	5/26/2005		

Del Mar Analytical, Irvine
 Pat Abe
 Project Manager

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IOE1660 <Page 2 of 14>



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Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Paul McCarter

Project ID: ARCO 3081, Chino
Report Number: IOE1660

Sampled: 05/25/05
Received: 05/25/05

BENZENE in AIR (410A MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOE1660-08 (EFFLUENT - Air)								
Reporting Units: ppmv								
Benzene	410 A	5E27066	0.059	ND	1	5/27/2005	5/27/2005	

Del Mar Analytical, Irvine
Pat Abe
Project Manager

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Delta Env. Consultants - Aliso Viejo
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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05
 Received: 05/25/05

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: IOE1660-01 (VEW1 - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005

Surrogate: Dibromoformmethane (80-120%)

108 %

Surrogate: Toluene-d8 (80-120%)

102 %

Surrogate: 4-Bromofluorobenzene (80-120%)

106 %

Sample ID: IOE1660-02 (VEW2 - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005

Surrogate: Dibromoformmethane (80-120%)

113 %

Surrogate: Toluene-d8 (80-120%)

104 %

Surrogate: 4-Bromofluorobenzene (80-120%)

112 %

Del Mar Analytical, Irvine
 Pat Abe
 Project Manager



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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05

Received: 05/25/05

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: IOE1660-03 (VIEW3 - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005
<i>Surrogate: Dibromofluoromethane (80-120%)</i>				111 %			
<i>Surrogate: Toluene-d8 (80-120%)</i>				102 %			
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>				110 %			

Sample ID: IOE1660-04 (BC1-M - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005
<i>Surrogate: Dibromofluoromethane (80-120%)</i>				111 %			
<i>Surrogate: Toluene-d8 (80-120%)</i>				104 %			
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>				108 %			

Del Mar Analytical, Irvine
 Pat Abe
 Project Manager

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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05
 Received: 05/25/05

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: IOE1660-05 (VIEWS - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005

Surrogate: Dibromofluoromethane (80-120%)

114 %

Surrogate: Toluene-d8 (80-120%)

103 %

Surrogate: 4-Bromofluorobenzene (80-120%)

108 %

Sample ID: IOE1660-06 (BC1-D - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005

Surrogate: Dibromofluoromethane (80-120%)

114 %

Surrogate: Toluene-d8 (80-120%)

105 %

Surrogate: 4-Bromofluorobenzene (80-120%)

108 %

Del Mar Analytical, Irvine
 Pat Abe
 Project Manager



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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05

Received: 05/25/05

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
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Sample ID: IOE1660-07 (INFLUENT - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005

Surrogate: Dibromofluoromethane (80-120%)

114 %

Surrogate: Toluene-d8 (80-120%)

103 %

Surrogate: 4-Bromofluorobenzene (80-120%)

108 %

Sample ID: IOE1660-08 (EFFLUENT - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5E26011	1.2	ND	1	5/26/2005	5/26/2005
Ethylbenzene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Toluene	EPA 8260B MOD.	5E26011	1.1	ND	1	5/26/2005	5/26/2005
m,p-Xylenes	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
o-Xylene	EPA 8260B MOD.	5E26011	0.92	ND	1	5/26/2005	5/26/2005
Xylenes, Total	EPA 8260B MOD.	5E26011	1.8	ND	1	5/26/2005	5/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5E26011	2.7	ND	1	5/26/2005	5/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5E26011	2.4	ND	1	5/26/2005	5/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5E26011	2.8	ND	1	5/26/2005	5/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5E26011	33	ND	1	5/26/2005	5/26/2005
Ethanol	EPA 8260B MOD.	5E26011	160	ND	1	5/26/2005	5/26/2005

Surrogate: Dibromofluoromethane (80-120%)

114 %

Surrogate: Toluene-d8 (80-120%)

105 %

Surrogate: 4-Bromofluorobenzene (80-120%)

109 %

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 Project Manager

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Delta Env. Consultants - Aliso Viejo 27141 Aliso Creek Road, Suite 270 Aliso Viejo, CA 92656 Attention: Paul McCarter	Project ID: ARCO 3081, Chino Report Number: IOE1660	Sampled: 05/25/05 Received: 05/25/05
--	--	---

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: VEW1 (IOE1660-01) - Air					
EPA 8015M	3	05/25/2005 12:35	05/25/2005 15:50	05/26/2005 15:01	05/26/2005 15:01
EPA 8260B MOD.	3	05/25/2005 12:35	05/25/2005 15:50	05/26/2005 09:03	05/26/2005 09:33
Sample ID: VEW2 (IOE1660-02) - Air					
EPA 8015M	3	05/25/2005 12:40	05/25/2005 15:50	05/26/2005 15:16	05/26/2005 15:16
EPA 8260B MOD.	3	05/25/2005 12:40	05/25/2005 15:50	05/26/2005 09:09	05/26/2005 10:35
Sample ID: VEW3 (IOE1660-03) - Air					
EPA 8015M	3	05/25/2005 12:20	05/25/2005 15:50	05/26/2005 15:31	05/26/2005 15:31
EPA 8260B MOD.	3	05/25/2005 12:20	05/25/2005 15:50	05/26/2005 09:12	05/26/2005 11:07
Sample ID: BC1-M (IOE1660-04) - Air					
EPA 8015M	3	05/25/2005 12:25	05/25/2005 15:50	05/26/2005 15:48	05/26/2005 15:48
EPA 8260B MOD.	3	05/25/2005 12:25	05/25/2005 15:50	05/26/2005 09:15	05/26/2005 11:38
Sample ID: VEW5 (IOE1660-05) - Air					
EPA 8015M	3	05/25/2005 12:30	05/25/2005 15:50	05/26/2005 16:05	05/26/2005 16:05
EPA 8260B MOD.	3	05/25/2005 12:30	05/25/2005 15:50	05/26/2005 09:50	05/26/2005 12:09
Sample ID: BC1-D (IOE1660-06) - Air					
EPA 8015M	3	05/25/2005 12:15	05/25/2005 15:50	05/26/2005 16:20	05/26/2005 16:20
EPA 8260B MOD.	3	05/25/2005 12:15	05/25/2005 15:50	05/26/2005 09:55	05/26/2005 12:40
Sample ID: INFLUENT (IOE1660-07) - Air					
EPA 8015M	3	05/25/2005 12:10	05/25/2005 15:50	05/26/2005 16:35	05/26/2005 16:35
EPA 8260B MOD.	3	05/25/2005 12:10	05/25/2005 15:50	05/26/2005 09:58	05/26/2005 13:11
Sample ID: EFFLUENT (IOE1660-08) - Air					
410 A	3	05/25/2005 12:05	05/25/2005 15:50	05/27/2005 20:14	05/27/2005 20:14
EPA 8015M	3	05/25/2005 12:05	05/25/2005 15:50	05/26/2005 16:50	05/26/2005 16:50
EPA 8260B MOD.	3	05/25/2005 12:05	05/25/2005 15:50	05/26/2005 10:01	05/26/2005 13:43

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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05

Received: 05/25/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS in Air (EPA 8015M.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Data Qualifiers
<u>Batch: 5E26063 Extracted: 05/26/05</u>								
Blank Analyzed: 05/26/2005 (5E26063-BLK1)								
Volatile Fuel Hydrocarbons (C6-C12)								
	ND	2.4	ppmv					
LCS Analyzed: 05/26/2005 (5E26063-BS1)								
Volatile Fuel Hydrocarbons (C6-C12)								
	69.8	2.4	ppmv	70.0		100 80-120		
Duplicate Analyzed: 05/26/2005 (5E26063-DUP1)					Source: IOE1660-08			
Volatile Fuel Hydrocarbons (C6-C12)								
	4.57	2.4	ppmv		5.0		9 20	

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Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05

Received: 05/25/05

METHOD BLANK/QC DATA

BENZENE in AIR (410A MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: 5E27066 Extracted: 05/27/05</u>									
Blank Analyzed: 05/27/2005 (5E27066-BLK1)									
Benzene	ND	0.059	ppmv						
Duplicate Analyzed: 05/27/2005 (5E27066-DUP1)									
Benzene	ND	0.059	ppmv		Source: IOE1660-08	ND		20	

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05
 Received: 05/25/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Data Limit Qualifiers
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Batch: 5E26011 Extracted: 05/26/05

Blank Analyzed: 05/26/2005 (5E26011-BLK1)

Benzene	ND	1.2	ppmv						
Ethylbenzene	ND	0.92	ppmv						
Toluene	ND	1.1	ppmv						
m,p-Xylenes	ND	0.92	ppmv						
o-Xylene	ND	0.92	ppmv						
Xylenes, Total	ND	1.8	ppmv						
Di-isopropyl Ether (DIPE)	ND	2.4	ppmv						
Ethyl tert-Butyl Ether (ETBE)	ND	2.7	ppmv						
tert-Amyl Methyl Ether (TAME)	ND	2.4	ppmv						
Methyl-tert-butyl Ether (MTBE)	ND	2.8	ppmv						
tert-Butanol (TBA)	ND	33	ppmv						
Ethanol	ND	160	ppmv						
<i>Surrogate: Dibromoformmethane</i>	6.90		ppmv	6.37		108	80-120		
<i>Surrogate: Toluene-d8</i>	12.6		ppmv	12.2		103	80-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	7.44		ppmv	6.99		106	80-120		

LCS Analyzed: 05/26/2005 (5E26011-BS1)

Benzene	13.7	1.2	ppmv	15.7		87	65-120		
Ethylbenzene	10.9	0.92	ppmv	11.5		95	70-125		
Toluene	11.8	1.1	ppmv	13.3		89	70-125		
m,p-Xylenes	22.4	0.92	ppmv	23.0		97	70-125		
o-Xylene	11.0	0.92	ppmv	11.5		96	70-125		
Xylenes, Total	33.4	1.8	ppmv	34.5		97	70-125		
Di-isopropyl Ether (DIPE)	11.9	2.4	ppmv	12.0		99	60-135		
Ethyl tert-Butyl Ether (ETBE)	9.95	2.7	ppmv	12.0		83	60-135		
tert-Amyl Methyl Ether (TAME)	10.8	2.4	ppmv	12.0		90	60-135		
Methyl-tert-butyl Ether (MTBE)	13.1	2.8	ppmv	13.9		94	55-140		
tert-Butanol (TBA)	78.8	33	ppmv	82.5		96	65-135		
Ethanol	325	160	ppmv	265		123	35-160		
<i>Surrogate: Dibromoformmethane</i>	6.87		ppmv	6.37		108	80-120		
<i>Surrogate: Toluene-d8</i>	12.6		ppmv	12.2		103	80-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	7.49		ppmv	6.99		107	80-120		

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 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05
 Received: 05/25/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Data Limit Qualifiers
<u>Batch: 5E26011 Extracted: 05/26/05</u>									
Duplicate Analyzed: 05/26/2005 (5E26011-DUP1)					Source: IOE1660-01				
Benzene	ND	1.2	ppmv		ND			20	
Ethylbenzene	ND	0.92	ppmv		ND			20	
Toluene	ND	1.1	ppmv		ND			20	
m,p-Xylenes	ND	0.92	ppmv		ND			20	
o-Xylene	ND	0.92	ppmv		ND			20	
Xylenes, Total	ND	1.8	ppmv		0.25			20	
Di-isopropyl Ether (DIPE)	ND	2.4	ppmv		ND			20	
Ethyl tert-Butyl Ether (ETBE)	ND	2.7	ppmv		ND			20	
tert-Amyl Methyl Ether (TAME)	ND	2.4	ppmv		ND			20	
Methyl-tert-butyl Ether (MTBE)	ND	2.8	ppmv		ND			25	
tert-Butanol (TBA)	ND	33	ppmv		ND			25	
Ethanol	ND	160	ppmv		ND			30	
Surrogate: Dibromoformmethane	6.76		ppmv	6.37		106	80-120		
Surrogate: Toluene-d8	12.5		ppmv	12.2		102	80-120		
Surrogate: 4-Bromofluorobenzene	7.40		ppmv	6.99		106	80-120		

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Attention: Paul McCarter

Project ID: ARCO 3081, Chino
Report Number: IOE1660

Sampled: 05/25/05
Received: 05/25/05

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For VFH (ppmv):

The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m³ to ppm by volume (ppmv).

For Volatile Fuel Hydrocarbons (C6-C12):

Volatile Fuel Hydrocarbons (C6-C12) are quantitated against a gasoline standard.

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Project ID: ARCO 3081, Chino

Report Number: IOE1660

Sampled: 05/25/05

Received: 05/25/05

Certification Summary

Del Mar Analytical, Irvine

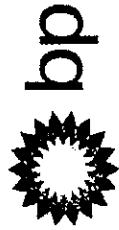
Method	Matrix	Nelac	California
410 A	Air	N/A	N/A
EPA 8015M	Air	N/A	N/A
EPA 8260B MOD.	Air	N/A	N/A

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

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Pat Abe
Project Manager

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Chain of Custody Record

Page 1 of 1											
Project Name BP BU/AR Region/Envos Segment: State or Lead Regulatory Agency		ARCO 3081 AR West Coast Retail San Bernardino County Fire Department		On-site Time: 8:00 Temp: 63°C		Off-site Time: 13:00 Temp: 130°C		Sky Conditions: Partly Cloudy		Meteorological Events: Wind Speed: 10 mph	
YEAR: 2005	Requested Due Date (mm/dd/yy): Standard	BPIAR Facility No.: 3081	BPIAR Facility Address: 17461 Dorian Ave. #100 Irvine, CA	Site Lat/Long: California Global ID #: T0607100111	Enviro Project No.: G0B6W-0006	Provision or RCOP: (Circle one)	Phase/WBS: 03	Sub Phase/Task: 05	Cost Element: 03	Consultant/Contractor: Delta Environmental	Address: NA
Lab Name: Del Mar Analytical	Lab Address: 17461 Dorian Ave. #100 Irvine, CA	Lab PM: Pat Abe	TeleFax: (694) 261-1022	BP/AR PM Contact Name: Gordon Terhune	Address: 4 Centerpointe Dr. La Palma, CA	TeleFax: 407-261-1022	Lab Bottle Order No.: 101660	Matrix: Preservatives	Laboratory Tracking No.: 101660	No. of containers: 1	Sample Point Lat/Long and Comments: 10 DAY
Item No.	Sample Description	Date	Time	Soil/Solid	Water/Liquid	Air	Supplanted	HNO ₃	HCl	Methanol	TPHg EPA 8015
1	VIEW 1	12/25/05	12:00	X	X	X	X	X	X	X	EPA 8270
2	VIEW 2	12/26/05	12:00	X	X	X	X	X	X	X	EPA 8260
3	VIEW 3	12/26/05	12:00	X	X	X	X	X	X	X	EPA 8260B
4	BC 1-M	12/26/05	12:00	X	X	X	X	X	X	X	BTEX + Oxy's + Ethanol
5	VIEW 5	12/26/05	12:00	X	X	X	X	X	X	X	Permethrin
6	BC 1-D	12/26/05	12:00	X	X	X	X	X	X	X	PCP
7	INFRENT	12/26/05	12:00	X	X	X	X	X	X	X	PCP
8	EFFLUENT	12/26/05	12:00	X	X	X	X	X	X	X	PCP
9											
10											
Sampler's Full Name: STEVE LUCKE		Relinquished By / Affiliation (Sign): Steve Lucke		Date / Time Accepted By / Affiliation (Sign): 10/26/05							
Sampler's Company: DETA		Shipment Date: 5-25-05		Shipment Method: DELIVERED							
Shipment Tracking No.: G0B6W-0006		Special Instructions: GOB6W-0006									
Custody Seals In Place (circle one) Y		Temp Blank (circle one) N		Cooler Temperature on Receipt Y (N)		Trip Blank Y (N)		Trip Blank Y (N)		Trip Blank Y (N)	
Distribution: White Copy - Laboratory / Yellow Copy - BP/GEM / Pink Copy - Consultant/Contractor											
BP COC Rev. 4 10/10/04											



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LABORATORY REPORT

Prepared For: Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656
Attention: Paul McCarter

Project: ARCO 3081, Chino

Sampled: 07/28/05
Received: 07/28/05
Issued: 08/08/05 11:36

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 22°C and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IOG1967-01	INFLUENT	Air
IOG1967-02	EFFLUENT	Air

Reviewed By:

Del Mar Analytical, Irvine
Pat Abe
Project Manager



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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOG1967

Sampled: 07/28/05
 Received: 07/28/05

VOLATILE FUEL HYDROCARBONS in Air (EPA 8015M.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOG1967-01 (INFLUENT - Air)								
	Reporting Units: ppmv							
Volatile Fuel Hydrocarbons (C6-C12)								
	EPA 8015M	5G29054	2.4	7.1	1	7/29/2005	7/29/2005	
Sample ID: IOG1967-02 (EFFLUENT - Air)								
	Reporting Units: ppmv							
Volatile Fuel Hydrocarbons (C6-C12)								
	EPA 8015M	5G29054	2.4	5.9	1	7/29/2005	7/29/2005	

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 Project Manager

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Project ID: ARCO 3081, Chino

Report Number: IOG1967

Sampled: 07/28/05

Received: 07/28/05

BENZENE in AIR (410A MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOG1967-02 (EFFLUENT - Air)								
Reporting Units: ppmv								
Benzene	410 A	5G29056	0.059	ND	1	7/29/2005	7/29/2005	

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOG1967

Sampled: 07/28/05

Received: 07/28/05

BTEX and MTBE in Air by GC/MS (EPA 5030B/8260B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: IOG1967-01 (INFLUENT - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5G29010	1.2	ND	1	7/29/2005	7/29/2005
Ethylbenzene	EPA 8260B MOD.	5G29010	0.92	ND	1	7/29/2005	7/29/2005
Toluene	EPA 8260B MOD.	5G29010	1.1	ND	1	7/29/2005	7/29/2005
o-Xylene	EPA 8260B MOD.	5G29010	0.92	ND	1	7/29/2005	7/29/2005
m,p-Xylenes	EPA 8260B MOD.	5G29010	0.92	ND	1	7/29/2005	7/29/2005
Xylenes, Total	EPA 8260B MOD.	5G29010	1.8	ND	1	7/29/2005	7/29/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5G29010	2.8	ND	1	7/29/2005	7/29/2005
<i>Surrogate: Dibromofluoromethane (80-120%)</i>				103 %			
<i>Surrogate: Toluene-d8 (80-120%)</i>				110 %			
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>				109 %			

Sample ID: IOG1967-02 (EFFLUENT - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5G29010	1.2	ND	1	7/29/2005	7/29/2005
Ethylbenzene	EPA 8260B MOD.	5G29010	0.92	ND	1	7/29/2005	7/29/2005
Toluene	EPA 8260B MOD.	5G29010	1.1	ND	1	7/29/2005	7/29/2005
o-Xylene	EPA 8260B MOD.	5G29010	0.92	ND	1	7/29/2005	7/29/2005
m,p-Xylenes	EPA 8260B MOD.	5G29010	0.92	ND	1	7/29/2005	7/29/2005
Xylenes, Total	EPA 8260B MOD.	5G29010	1.8	ND	1	7/29/2005	7/29/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5G29010	2.8	ND	1	7/29/2005	7/29/2005
<i>Surrogate: Dibromofluoromethane (80-120%)</i>				104 %			
<i>Surrogate: Toluene-d8 (80-120%)</i>				110 %			
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>				109 %			

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Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOG1967

Sampled: 07/28/05

Received: 07/28/05

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: INFLUENT (IOG1967-01) - Air					
EPA 8015M	3	07/28/2005 12:30	07/28/2005 18:15	07/29/2005 13:11	07/29/2005 13:11
EPA 8260B MOD.	3	07/28/2005 12:30	07/28/2005 18:15	07/29/2005 10:24	07/29/2005 14:09
Sample ID: EFFLUENT (IOG1967-02) - Air					
410 A	3	07/28/2005 12:30	07/28/2005 18:15	07/29/2005 16:23	07/29/2005 19:06
EPA 8015M	3	07/28/2005 12:30	07/28/2005 18:15	07/29/2005 13:28	07/29/2005 13:28
EPA 8260B MOD.	3	07/28/2005 12:30	07/28/2005 18:15	07/29/2005 10:30	07/29/2005 15:06

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOG1967

Sampled: 07/28/05
 Received: 07/28/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS in Air (EPA 8015M.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: 5G29054 Extracted: 07/29/05</u>									
Blank Analyzed: 07/29/2005 (5G29054-BLK1)									
Volatile Fuel Hydrocarbons (C6-C12)	ND	2.4	ppmv						
LCS Analyzed: 07/30/2005 (5G29054-BS1)									
Volatile Fuel Hydrocarbons (C6-C12)	78.6	2.4	ppmv	70.0		112	80-120		
Duplicate Analyzed: 07/29/2005 (5G29054-DUP1)					Source: IOG2000-01				
Volatile Fuel Hydrocarbons (C6-C12)	414	2.4	ppmv		410			1	20

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Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOG1967

Sampled: 07/28/05
Received: 07/28/05

METHOD BLANK/QC DATA

BENZENE in AIR (410A MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: 5G29056 Extracted: 07/29/05

Blank Analyzed: 07/29/2005 (5G29056-BLK1)

Benzene	ND	0.059	ppmv
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Duplicate Analyzed: 07/29/2005 (5G29056-DUP1)

Benzene	ND	0.059	ppmv	Source: IOG1903-02	ND	20
---------	----	-------	------	--------------------	----	----

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOG1967

Sampled: 07/28/05

Received: 07/28/05

METHOD BLANK/QC DATA

BTEX and MTBE in Air by GC/MS (EPA 5030B/8260B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Data Limit Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------------------

Batch: 5G29010 Extracted: 07/29/05

Blank Analyzed: 07/29/2005 (5G29010-BLK1)

Benzene	ND	1.2	ppmv						
Ethylbenzene	ND	0.92	ppmv						
Toluene	ND	1.1	ppmv						
o-Xylene	ND	0.92	ppmv						
m,p-Xylenes	ND	0.92	ppmv						
Xylenes, Total	ND	1.8	ppmv						
Methyl-tert-butyl Ether (MTBE)	ND	2.8	ppmv						
<i>Surrogate: DibromoFluoromethane</i>	6.22		ppmv	6.37		98	80-120		
<i>Surrogate: Toluene-d8</i>	13.1		ppmv	12.2		107	80-120		
<i>Surrogate: 4-BromoFluorobenzene</i>	7.35		ppmv	6.99		105	80-120		

LCS Analyzed: 07/29/2005 (5G29010-BS1)

Benzene	15.4	1.2	ppmv	15.7		98	65-120		
Ethylbenzene	12.8	0.92	ppmv	11.5		111	70-125		
Toluene	13.7	1.1	ppmv	13.3		103	70-125		
o-Xylene	12.5	0.92	ppmv	11.5		109	70-125		
m,p-Xylenes	25.6	0.92	ppmv	23.0		111	70-125		
Xylenes, Total	38.1	1.8	ppmv	34.5		110	70-125		
Methyl-tert-butyl Ether (MTBE)	14.7	2.8	ppmv	13.9		106	55-140		
<i>Surrogate: DibromoFluoromethane</i>	6.32		ppmv	6.37		99	80-120		
<i>Surrogate: Toluene-d8</i>	13.2		ppmv	12.2		108	80-120		
<i>Surrogate: 4-BromoFluorobenzene</i>	7.69		ppmv	6.99		110	80-120		

Duplicate Analyzed: 07/29/2005 (5G29010-DUP1)

Benzene	ND	1.2	ppmv	ND				20	
Ethylbenzene	ND	0.92	ppmv	ND				20	
Toluene	ND	1.1	ppmv	ND				20	
o-Xylene	ND	0.92	ppmv	ND				20	
m,p-Xylenes	ND	0.92	ppmv	ND				20	
Xylenes, Total	ND	1.8	ppmv	ND				20	
Methyl-tert-butyl Ether (MTBE)	0.300	2.8	ppmv	0.28				7	25
<i>Surrogate: DibromoFluoromethane</i>	6.63		ppmv	6.37		104	80-120		
<i>Surrogate: Toluene-d8</i>	13.4		ppmv	12.2		110	80-120		
<i>Surrogate: 4-BromoFluorobenzene</i>	7.78		ppmv	6.99		111	80-120		

Source: IOG1967-01

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 Pat Abe
 Project Manager

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Project ID: ARCO 3081, Chino
Report Number: IOG1967

Sampled: 07/28/05
Received: 07/28/05

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

ADDITIONAL COMMENTS

For VFH (ppmv):

The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m³ to ppm by volume (ppmv).

For Volatile Fuel Hydrocarbons (C6-C12):

Volatile Fuel Hydrocarbons (C6-C12) are quantitated against a gasoline standard.

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Project Manager

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Report Number: IOG1967

Sampled: 07/28/05
Received: 07/28/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
410 A	Air	N/A	N/A
EPA 8015M	Air	N/A	N/A
EPA 8260B MOD.	Air	N/A	N/A

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

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Project Manager

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105406

Chain of Custody Record

ARCO 3081

Project Name

BP BURGESS CO Portfolio:

BP Laboratory Contract Number:

Requested Due Date (mm/dd/yy) Standard TAT7/28/05

On-site Time:	Off-site Time:	Temp:	Temp:
Sky Conditions:			
Meteorological Events:			
Wind Speed:		Direction:	

Send To:	BPI/GEM Facility No.: <u>3081</u>		Consultant/Contractor: <u>BPA EnviroNetts / Consulting Inc.</u>
Lab Name:	BPI/GEM Facility Address: <u>12201 Mountain Ave, Chino, CA</u>		Address: <u>27141 Aliso Creek Rd, Suite 270,</u>
Lab Address:	Site ID No.: <u>17461</u>		<u>Aliso Viejo, CA 92656</u>
	Site Lat/Long:		e-mail EDD:
	California Global ID #:		
	BPI/GEM PM Contact: <u>Patricia Abe</u>		Consultant/Contractor Project No.: <u>Paul McCarter</u>
	Address: <u>4 Pepperpointe Dr, La Palma, CA</u>		Consultant/Contractor Tel/Fax:
	TeleFax: <u>(714) 261-1022</u>		Consultant/Contractor P.M.: <u>Paul McCarter</u>
	Report Type & QC Level: <u>Standard</u>		Invoice to: Consultant or BP or Atlantic Richfield Co (Circle one)
	BPI/GEM Account No.:		BPI/GEM Work Release No.:
	Lab Bottle Order No.:		
	Matrix	Preservatives	Requested Analysis
Item No.	Sample Description	Date	Laboratory No.
		Soil/Solid	<u>TOC 1967</u>
		Water/Liquid	
		Air	
1	TNFLUENT	7/28	X
2	EFLUENT	7/28	X
3			
4			
5			
6			
7			
8			
9			
10			
Sampler's Name:	<u>Karenne Balash</u>		Date
Sampler's Company:	<u>BPA EnviroNetts</u>		Time
Shipment Date:	<u>7/28</u>		Accepted By / Affiliation
Shipment Method:			Date
Shipment Tracking No.:			Time
Special Instructions:			
Custody Seals In Place Yes	<u>No</u>		Cooler Temperature on Receipt <u>22°C</u>
			Trip Blank Yes <u>No</u>
			No. <u>X</u>
			BP COC Rev 2 4/18/03
			LABORATORY



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LABORATORY REPORT

Prepared For: Delta Env. Consultants - Aliso Viejo
27141 Aliso Creek Road, Suite 270
Aliso Viejo, CA 92656

Attention: Paul McCarter

Project: ARCO 3081, Chino

Sampled: 08/25/05
Received: 08/25/05
Issued: 09/09/05 14:15

NELAP #01108CA California ELAP#1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 22°C and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
Please note that the result for MTBE exceeded the linear range in the DUP and therefore is not available for reporting for EPA 5030B/8260B Mod QC batch 5H26015. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IOH2083-01	Influent	Air
IOH2083-02	Effluent	Air
IOH2083-03	BC-1D	Air
IOH2083-04	VEW-2	Air
IOH2083-05	VEW-5	Air

Reviewed By:

Del Mar Analytical, Irvine
Pat Abe
Project Manager



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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05
 Received: 08/25/05

VOLATILE FUEL HYDROCARBONS in Air (EPA 8015M.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOH2083-01 (Influent - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015M	5H26056	2.4	7.1	1	8/26/2005	8/26/2005	
Sample ID: IOH2083-02 (Effluent - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015M	5H26056	2.4	5.3	1	8/26/2005	8/26/2005	
Sample ID: IOH2083-03 (BC-1D - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015M	5H26056	2.4	6.0	1	8/26/2005	8/26/2005	
Sample ID: IOH2083-04 (VEW-2 - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015M	5H26056	2.4	3.7	1	8/26/2005	8/26/2005	
Sample ID: IOH2083-05 (VEW-5 - Air)								
Reporting Units: ppmv								
Volatile Fuel Hydrocarbons (C6-C12)	EPA 8015M	5H26056	2.4	2.6	1	8/26/2005	8/26/2005	

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Attention: Paul McCarter

Project ID: ARCO 3081, Chino
Report Number: IOH2083

Sampled: 08/25/05
Received: 08/25/05

BENZENE in AIR (410A MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOH2083-02 (Effluent - Air)								
Reporting Units: ppmv								
Benzene	410 A	SH25076	0.059	ND	1	8/25/2005	8/25/2005	

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05
 Received: 08/25/05

BTEX and MTBE in Air by GC/MS (EPA 5030B/8260B MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: IOH2083-01 (Influent - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5H26015	1.2	ND	1	8/26/2005	8/26/2005
Ethylbenzene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
Toluene	EPA 8260B MOD.	5H26015	1.1	ND	1	8/26/2005	8/26/2005
o-Xylene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
m,p-Xylenes	EPA 8260B MOD.	5H26015	0.92	1.2	1	8/26/2005	8/26/2005
Xylenes, Total	EPA 8260B MOD.	5H26015	1.8	ND	1	8/26/2005	8/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5H26015	2.8	ND	1	8/26/2005	8/26/2005
<i>Surrogate: Dibromofluoromethane (80-120%)</i>				110 %			
<i>Surrogate: Toluene-d8 (80-120%)</i>				102 %			
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>				96 %			

Sample ID: IOH2083-02 (Effluent - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5H26015	1.2	ND	1	8/26/2005	8/26/2005
Ethylbenzene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
Toluene	EPA 8260B MOD.	5H26015	1.1	ND	1	8/26/2005	8/26/2005
o-Xylene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
m,p-Xylenes	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
Xylenes, Total	EPA 8260B MOD.	5H26015	1.8	ND	1	8/26/2005	8/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5H26015	2.8	ND	1	8/26/2005	8/26/2005
<i>Surrogate: Dibromofluoromethane (80-120%)</i>				113 %			
<i>Surrogate: Toluene-d8 (80-120%)</i>				101 %			
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>				98 %			

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05

Received: 08/25/05

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: IOH2083-03 (BC-1D - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5H26015	1.2	ND	1	8/26/2005	8/26/2005
Ethylbenzene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
Toluene	EPA 8260B MOD.	5H26015	1.1	ND	1	8/26/2005	8/26/2005
m,p-Xylenes	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
o-Xylene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
Xylenes, Total	EPA 8260B MOD.	5H26015	1.8	ND	1	8/26/2005	8/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5H26015	2.4	ND	1	8/26/2005	8/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5H26015	2.7	ND	1	8/26/2005	8/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5H26015	2.4	ND	1	8/26/2005	8/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5H26015	2.8	ND	1	8/26/2005	8/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5H26015	33	ND	1	8/26/2005	8/26/2005
Ethanol	EPA 8260B MOD.	5H26015	160	ND	1	8/26/2005	8/26/2005

Surrogate: Dibromofluoromethane (80-120%)

114 %

Surrogate: Toluene-d8 (80-120%)

102 %

Surrogate: 4-Bromofluorobenzene (80-120%)

100 %

Sample ID: IOH2083-04 (VEW-2 - Air)

Reporting Units: ppmv

Benzene	EPA 8260B MOD.	5H26015	1.2	ND	1	8/26/2005	8/26/2005
Ethylbenzene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
Toluene	EPA 8260B MOD.	5H26015	1.1	1.1	1	8/26/2005	8/26/2005
m,p-Xylenes	EPA 8260B MOD.	5H26015	0.92	1.8	1	8/26/2005	8/26/2005
o-Xylene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/26/2005
Xylenes, Total	EPA 8260B MOD.	5H26015	1.8	2.2	1	8/26/2005	8/26/2005
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5H26015	2.4	ND	1	8/26/2005	8/26/2005
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5H26015	2.7	ND	1	8/26/2005	8/26/2005
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5H26015	2.4	ND	1	8/26/2005	8/26/2005
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5H26015	2.8	ND	1	8/26/2005	8/26/2005
tert-Butanol (TBA)	EPA 8260B MOD.	5H26015	33	ND	1	8/26/2005	8/26/2005
Ethanol	EPA 8260B MOD.	5H26015	160	ND	1	8/26/2005	8/26/2005

Surrogate: Dibromofluoromethane (80-120%)

111 %

Surrogate: Toluene-d8 (80-120%)

100 %

Surrogate: 4-Bromofluorobenzene (80-120%)

101 %

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 Pat Abe
 Project Manager



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 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05
 Received: 08/25/05

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOH2083-05 (VEW-5 - Air)								
Reporting Units: ppmv								
Benzene	EPA 8260B MOD.	5H26015	1.2	ND	1	8/26/2005	8/27/2005	
Ethylbenzene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/27/2005	
Toluene	EPA 8260B MOD.	5H26015	1.1	ND	1	8/26/2005	8/27/2005	
m,p-Xylenes	EPA 8260B MOD.	5H26015	0.92	1.5	1	8/26/2005	8/27/2005	
o-Xylene	EPA 8260B MOD.	5H26015	0.92	ND	1	8/26/2005	8/27/2005	
Xylenes, Total	EPA 8260B MOD.	5H26015	1.8	1.9	1	8/26/2005	8/27/2005	
Di-isopropyl Ether (DIPE)	EPA 8260B MOD.	5H26015	2.4	ND	1	8/26/2005	8/27/2005	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B MOD.	5H26015	2.7	ND	1	8/26/2005	8/27/2005	
tert-Amyl Methyl Ether (TAME)	EPA 8260B MOD.	5H26015	2.4	ND	1	8/26/2005	8/27/2005	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD.	5H26015	2.8	ND	1	8/26/2005	8/27/2005	
tert-Butanol (TBA)	EPA 8260B MOD.	5H26015	33	ND	1	8/26/2005	8/27/2005	
Ethanol	EPA 8260B MOD.	5H26015	160	ND	1	8/26/2005	8/27/2005	
<i>Surrogate: Dibromofluoromethane (80-120%)</i>						114 %		
<i>Surrogate: Toluene-d8 (80-120%)</i>						104 %		
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>						99 %		

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05
 Received: 08/25/05

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Influent (IOH2083-01) - Air					
EPA 8015M	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 12:50	08/26/2005 12:50
EPA 8260B MOD.	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 17:44	08/26/2005 20:46
Sample ID: Effluent (IOH2083-02) - Air					
410 A	3	08/25/2005 12:30	08/25/2005 14:00	08/25/2005 16:03	08/25/2005 16:03
EPA 8015M	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 13:28	08/26/2005 13:28
EPA 8260B MOD.	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 00:00	08/26/2005 22:30
Sample ID: BC-1D (IOH2083-03) - Air					
EPA 8015M	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 13:42	08/26/2005 13:42
EPA 8260B MOD.	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 17:53	08/26/2005 22:57
Sample ID: VEW-2 (IOH2083-04) - Air					
EPA 8015M	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 13:56	08/26/2005 13:56
EPA 8260B MOD.	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 17:57	08/26/2005 23:23
Sample ID: VEW-5 (IOH2083-05) - Air					
EPA 8015M	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 14:10	08/26/2005 14:10
EPA 8260B MOD.	3	08/25/2005 12:30	08/25/2005 14:00	08/26/2005 18:01	08/27/2005 00:16

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05

Received: 08/25/05

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS in Air (EPA 8015M.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u>Batch: 5H26056 Extracted: 08/26/05</u>										
Blank Analyzed: 08/26/2005 (5H26056-BLK1)										
Volatile Fuel Hydrocarbons (C6-C12)	ND	2.4	ppmv							
LCS Analyzed: 08/26/2005 (5H26056-BS1)										
Volatile Fuel Hydrocarbons (C6-C12)	72.3	2.4	ppmv	69.7		104	80-120			
Duplicate Analyzed: 08/26/2005 (5H26056-DUP1)										
Volatile Fuel Hydrocarbons (C6-C12)	7.45	2.4	ppmv		6.4			15	20	
Source: IOH2082-01										

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Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05

Received: 08/25/05

METHOD BLANK/QC DATA

BENZENE in AIR (410A MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Data Limit Qualifiers
<u>Batch: 5H25076 Extracted: 08/25/05</u>								
Blank Analyzed: 08/25/2005 (5H25076-BLK1)								
Benzene ND 0.059 ppmv								
Duplicate Analyzed: 08/25/2005 (5H25076-DUP1)								
Benzene ND 0.059 ppmv					Source: IOH1984-02 ND			20

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 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05
 Received: 08/25/05

METHOD BLANK/QC DATA

BTEX and MTBE in Air by GC/MS (EPA 5030B/8260B MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-----------------

Batch: 5H26015 Extracted: 08/26/05

Blank Analyzed: 08/26/2005 (5H26015-BLK1)

Benzene	ND	1.2	ppmv							
Ethylbenzene	ND	0.92	ppmv							
Toluene	ND	1.1	ppmv							
o-Xylene	ND	0.92	ppmv							
m,p-Xylenes	ND	0.92	ppmv							
Xylenes, Total	ND	1.8	ppmv							
Methyl-tert-butyl Ether (MTBE)	ND	2.8	ppmv							
<i>Surrogate: Dibromoformmethane</i>	6.10		ppmv	6.37		96	80-120			
<i>Surrogate: Toluene-d8</i>	12.2		ppmv	12.2		100	80-120			
<i>Surrogate: 4-Bromoformbenzene</i>	6.47		ppmv	6.99		93	80-120			

LCS Analyzed: 08/26/2005 (5H26015-BS1)

Benzene	14.2	1.2	ppmv	15.7		90	65-120			
Ethylbenzene	11.2	0.92	ppmv	11.5		97	70-125			
Toluene	12.3	1.1	ppmv	13.3		92	70-125			
o-Xylene	10.6	0.92	ppmv	11.5		92	70-125			
m,p-Xylenes	21.9	0.92	ppmv	23.0		95	70-125			
Xylenes, Total	32.4	1.8	ppmv	34.5		94	70-125			
Methyl-tert-butyl Ether (MTBE)	12.5	2.8	ppmv	13.9		90	55-140			
<i>Surrogate: Dibromoformmethane</i>	6.56		ppmv	6.37		103	80-120			
<i>Surrogate: Toluene-d8</i>	12.3		ppmv	12.2		101	80-120			
<i>Surrogate: 4-Bromoformbenzene</i>	6.79		ppmv	6.99		97	80-120			

Duplicate Analyzed: 08/26/2005 (5H26015-DUP1)

Benzene	ND	1.2	ppmv	ND			20			
Ethylbenzene	ND	0.92	ppmv	ND			20			
Toluene	0.308	1.1	ppmv	ND			20			
o-Xylene	ND	0.92	ppmv	ND			20			
m,p-Xylenes	0.364	0.92	ppmv	ND			20			
Xylenes, Total	0.465	1.8	ppmv	ND			20			
<i>Surrogate: Dibromoformmethane</i>	6.79		ppmv	6.37		107	80-120			
<i>Surrogate: Toluene-d8</i>	12.3		ppmv	12.2		101	80-120			
<i>Surrogate: 4-Bromoformbenzene</i>	6.72		ppmv	6.99		96	80-120			

Source: IOH2082-01

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 Pat Abe
 Project Manager

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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05
 Received: 08/25/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	-----------	-------------	---------	-----------	-----------------

Batch: 5H26015 Extracted: 08/26/05

Blank Analyzed: 08/26/2005 (5H26015-BLK1)

Benzene	ND	1.2	ppmv							
Ethylbenzene	ND	0.92	ppmv							
Toluene	ND	1.1	ppmv							
m,p-Xylenes	ND	0.92	ppmv							
o-Xylene	ND	0.92	ppmv							
Xylenes, Total	ND	1.8	ppmv							
Di-isopropyl Ether (DIPE)	ND	2.4	ppmv							
Ethyl tert-Butyl Ether (ETBE)	ND	2.7	ppmv							
tert-Amyl Methyl Ether (TAME)	ND	2.4	ppmv							
Methyl-tert-butyl Ether (MTBE)	ND	2.8	ppmv							
tert-Butanol (TBA)	ND	33	ppmv							
Ethanol	ND	160	ppmv							
<i>Surrogate: Dibromoformmethane</i>	6.10		ppmv	6.37		96	80-120			
<i>Surrogate: Toluene-d8</i>	12.2		ppmv	12.2		100	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	6.47		ppmv	6.99		93	80-120			

LCS Analyzed: 08/26/2005 (5H26015-BS1)

Benzene	14.2	1.2	ppmv	15.7		90	65-120			
Ethylbenzene	11.2	0.92	ppmv	11.5		97	70-125			
Toluene	12.3	1.1	ppmv	13.3		92	70-125			
m,p-Xylenes	21.9	0.92	ppmv	23.0		95	70-125			
o-Xylene	10.6	0.92	ppmv	11.5		92	70-125			
Xylenes, Total	32.4	1.8	ppmv	34.5		94	70-125			
Di-isopropyl Ether (DIPE)	12.3	2.4	ppmv	12.0		102	60-135			
Ethyl tert-Butyl Ether (ETBE)	11.6	2.7	ppmv	12.0		97	60-135			
tert-Amyl Methyl Ether (TAME)	11.7	2.4	ppmv	12.0		98	60-135			
Methyl-tert-butyl Ether (MTBE)	12.5	2.8	ppmv	13.9		90	55-140			
tert-Butanol (TBA)	76.3	33	ppmv	82.5		92	65-135			
Ethanol	285	160	ppmv	265		108	35-160			
<i>Surrogate: Dibromoformmethane</i>	6.56		ppmv	6.37		103	80-120			
<i>Surrogate: Toluene-d8</i>	12.3		ppmv	12.2		101	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	6.79		ppmv	6.99		97	80-120			

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Delta Env. Consultants - Aliso Viejo
 27141 Aliso Creek Road, Suite 270
 Aliso Viejo, CA 92656
 Attention: Paul McCarter

Project ID: ARCO 3081, Chino

Report Number: IOH2083

Sampled: 08/25/05
 Received: 08/25/05

METHOD BLANK/QC DATA

BTEX/OXYGENATES in Air by GC/MS - (EPA 8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: SH26015 Extracted: 08/26/05</u>										
Duplicate Analyzed: 08/26/2005 (SH26015-DUP1)										
Source: IOH2082-01										
Benzene	ND	1.2	ppmv		ND				20	
Ethylbenzene	ND	0.92	ppmv		ND				20	
Toluene	0.308	1.1	ppmv		ND				20	
m,p-Xylenes	0.364	0.92	ppmv		ND				20	
o-Xylene	ND	0.92	ppmv		ND				20	
Xylenes, Total	0.465	1.8	ppmv		ND				20	
Di-isopropyl Ether (DIPE)	ND	2.4	ppmv		ND				20	
Ethyl tert-Butyl Ether (ETBE)	0.493	2.7	ppmv		0.50			1	20	
tert-Amyl Methyl Ether (TAME)	2.46	2.4	ppmv		2.7			9	20	
tert-Butanol (TBA)	5.22	33	ppmv		6.0			14	25	
Ethanol	ND	160	ppmv		ND				30	
<i>Surrogate: Dibromofluoromethane</i>	6.79		ppmv	6.37		107	80-120			
<i>Surrogate: Toluene-d8</i>	12.3		ppmv	12.2		101	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	6.72		ppmv	6.99		96	80-120			

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Project ID: ARCO 3081, Chino
Report Number: IOH2083

Sampled: 08/25/05
Received: 08/25/05

DATA QUALIFIERS AND DEFINITIONS

- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For VFH (ppmv):

The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m³ to ppm by volume (ppmv).

For Volatile Fuel Hydrocarbons (C6-C12):

Volatile Fuel Hydrocarbons (C6-C12) are quantitated against a gasoline standard.

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Project Manager

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Project ID: ARCO 3081, Chino
Report Number: IOH2083

Sampled: 08/25/05
Received: 08/25/05

Certification Summary

Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
410 A	Air	N/A	N/A
EDD	Air		
EPA 8015M	Air	N/A	N/A
EPA 8260B MOD.	Air	N/A	N/A

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

Del Mar Analytical, Irvine
Pat Abe
Project Manager

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Chain of Custody Record

ARCO 3081

AR, West Coast Retail

BP BU/AR Region/Enviro Segment:

State or Lead Regulatory Agency

Requested Due Date (mm/dd/yy)

YEAR

2005

COC TRACKING NO.

3081

BPI/AR Facility No.:

17461 Dorian Ave. #100

Irvine, CA

Site Lat/long:

NA

California Global ID #:

T0607100111

Envos Project No.:

G0B6W-0006

Provision or RCOP:

(Circle one)

Phase@WBS:

03

Sub Phase/Task:

05

Cost Element:

03

Preservatives

10/20/03

Laboratory Tracking No.:

10/20/03

Matrix

Soil/Solid

Water/Liquid

Air

No. of containers

Compressed

Ice

HCl

HNO₃H₂SO₄

BTEx + Oxy's +

Eduhrol

Benzene 410A

EPA 8260

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

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EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

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EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

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EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

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EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

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EPA 8270

TPHg EPA 8015

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EPA 8270

TPHg EPA 8015

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QTEX+MEPE

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EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA 8270

TPHg EPA 8015

VFT 8015

QTEX+MEPE

8260B

EPA 8260B

EPA